

SOME EDUCATIONAL FACTORS IN HEALTH CONSERVATION

CALIFORNIA STATE BOARD OF HEALTH

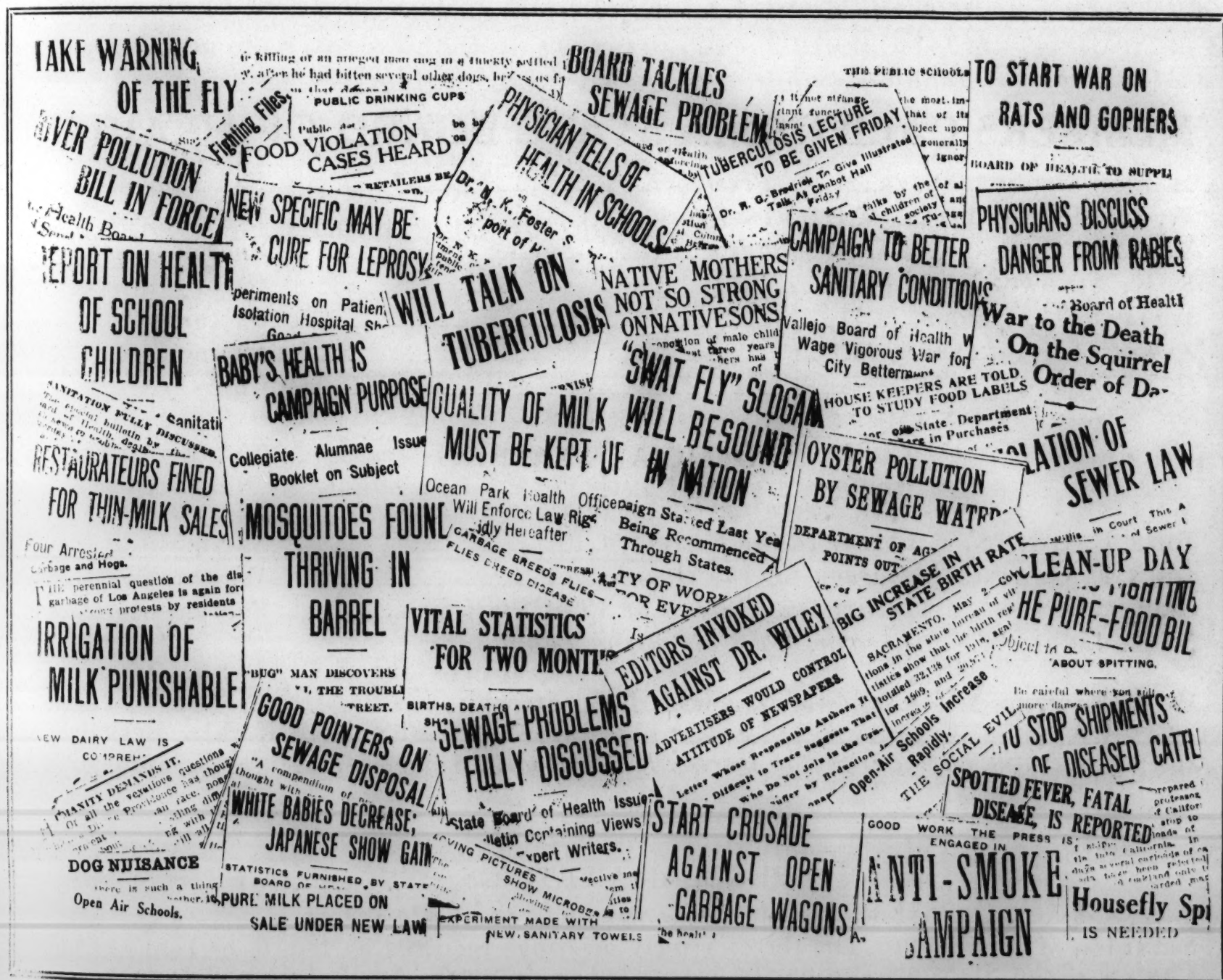
MONTHLY BULLETIN

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OUR GREAT EDUCATIONAL SYSTEM FOR ADULTS AND AN UNDEVELOPED AUXILIARY.



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TABLE OF CONTENTS

	Page.
1. COMMENTS	635
Summer School Public Health Courses	635
The Cost of Disease	635
The National Convention	636
The Sanitation Car Again	636
"First Aid" to Live Teachers of Hygiene	636
April Deaths and the Weather	637
2. OUR GREAT EDUCATIONAL SYSTEM FOR ADULTS	637
3. THE NEED FOR VISION IN PUBLIC HEALTH	643
4. STATE BOARD OF HEALTH AND PUBLIC SCHOOL INSTRUCTION	647
I—The Sanitation Car	647
II—Sanitation Instruction Outfit	653
III—Bacteriological Instruction Outfit	655
IV—Food and Drug Instruction Outfit	658
V—Bibliography for Public Health Instruction with Comments	659
VI—A Health Conservation Quarterly for Teachers	667

DEPARTMENT REPORTS FOR APRIL, 1911

(a) Bureau of Vital Statistics	668
(b) Food and Drug Laboratory	671
(c) Hygienic Laboratory	679
(d) Bureau of Public Health Information	679

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REGULAR MEETINGS

The meetings of the California State Board of Health are held regularly the first Saturday of each month, but the quarterly meetings required by law to be held at the Capitol of the State are ordinarily designated as January, April, July and October.

By courtesy of the University of California the Food and Drug Laboratory and the Hygienic Laboratory are located in University buildings at Berkeley, California.

Address all general communications to the

SECRETARY, Sacramento, California.

MAY BULLETIN.

Summer School Public Health Courses.

The announcement of summer courses in public health and hygiene in the University of California marks a long step forward in the application of preventive medicine principles. These courses are planned for physicians, teachers, and citizens, and will undoubtedly lead to renewed activity in popular education along these lines during the coming year.

Health Conservation is one of the great issues taking form in these early years of the new century. The people of the State are to be congratulated upon this new evidence that the authorities of the University are studying their needs closely and endeavoring to meet them. An announcement of these courses appear on page 679 of this bulletin.

* * * *

The Cost of Disease.

The Outlook has been publishing a series of articles on "Big Battles Against Disease." The fifth of these articles, published May 13, 1911, is on "The Cost of Disease," and presents convincing data for the statement that the cost from deaths that could be prevented by the adoption of measures already well defined amounts to \$750,000,000 a year for the United States. California's share of this estimate would be in the neighborhood of \$20,000,000 annually. The article states: "This is the sum that could be realized by the adoption—and the enforcement— of more effective sanitary provisions, and by the intelligent efforts of individual citizens acting in coöperation with the medical profession." As the author says: "It is a sum well worth saving, for every dollar of it represents not only economic waste, but also pain, suffering, and sorrow, all unnecessary."

The other point to which emphasis is specially given is the need for greater encouragement and support of investigations of diseases that still defy scientific inquiry and professional skill. In the November and December (1910) numbers of this bulletin extensive articles bearing on the cost of disease in California were published and will be sent to any interested in the problem.

* * * *

The National Conventions in June and July.

California this summer will entertain several important national associations. Those of special significance in public health work are—

1. The Surgeon-General's Conference with State and Teritorial Boards of Health—St. Francis Hotel, *San Francisco*, June 24, 1911.

2. The American Academy of Medicine—Hotel Alexandria, *Los Angeles*, June 24 and 26, 1911.

3. American Medical Association—Hotel Alexandria, *Los Angeles*, June 27 to 30, 1911.

4. Conference of State and Provincial Boards of Health of North America—Hotel Alexandria, *Los Angeles*, June 30 and July 1, 1911.

5. National Educational Association—*San Francisco*, July 8 to 15, 1911.

Not only will health-officials and noted sanitarians from every part of the United States and Canada attend these conventions, but prominent workers in every phase of welfare-work will be here. California will profit materially and, through renewed stimulation, go forward steadily in the great movements for health conservation already started. The other states will also profit by the example their representatives will find California has already set.

There will be much of great interest to laymen as well as to professional teachers and physicians in all of these meetings, and it will repay all California citizens who can leave their homes, to attend any or all of them. The public press will have the completed programs of each convention prior to the scheduled dates. Special railroad rates will be available and hotel accommodations are ample.

* * * *

The Sanitation Car Again. The "Sanitation Car" will again be sent out on June 15th. In the course of its trips the car will be demonstrated at the national conventions scheduled for this summer. In May, 1909, the State Board of Health launched this sanitation exhibit after having sent it on a series of short experimental trips. Through the courtesy and generosity of the Southern Pacific and other steam and electric railroad companies, this exhibit was carried without expense to the State to every section accessible by rail. Over one hundred thousand persons visited this demonstration, but the car traveled some ten thousand miles to reach them. A description of the contents of this car is included under the title in this issue—The State Board of Health and the Schools of California.

* * * *

"First Aid" to Live Teachers of Hygiene. In 1909, the State Board of Health supplemented its lecture and lantern-slide methods of educational work by equipping a sanitation car, which was sent out to every part of the State for demonstration. This work was followed by exhibits of models, charts, and sanitary devices at the various fairs, and in order to reach more particularly the children and teachers, a series of compact demonstration outfits were planned. The first one consisted of apparatus and laboratory material dealing with personal hygiene and the use of vital statistics. The second consisted of a relief map of a typical county with small houses, orchards, towns, summer hotels, dairies, etc., which can be moved about, like checkers, in studying the practical application of state public health laws to the county or local community. These first two divisions of practical school apparatus for teaching health conservation have been demonstrated at many of the county institutes during the year. The third outfit and its purposes, prepared by Dr. Sawyer, Director of the Hygiene Laboratory, has also been used in many schools. A fourth outfit is now in process of assembling by Director Jaffa, of the Food and Drug Laboratory. This outfit will demonstrate the workings of the pure food and drug laws. A brief description of all these outfits is given elsewhere in this issue. Reference is also made in this number to the important work of Miss Boring in developing the outlines for practical laboratory work in Hygiene and Public Health; also to the contemplated joint preparation of a Health Conservation Quarterly for

Teachers, by Superintendent of Education Edward Hyatt and Secretary W. F. Snow of the State Board of Health. Other phases of this work which are to be taken up will be announced from time to time.

* * * *

Vital Statistics It will be noted in the report for the Bureau of Vital for April. Statistics that there were 335 less deaths for April than for March. Further analysis will show that typhoid fever, malaria, measles, tuberculosis, diarrhoea and circulatory diseases all show marked increases; and that the decrease (which amounts to a death-rate of 1.2 less per thousand of population calculated on the basis of an annual rate) is due to only eight of the twenty-six causes given in the table. These are whooping-cough, influenza, pneumonia, other diseases of the respiratory system, general diseases of the nervous system, scarlet fever, diphtheria, and other general diseases.

There was nothing "unusual" reported during these two months to explain why some diseases increased and others decreased. There were no "epidemics." The average temperature was approximately the same; the first nine days of March were "rainy" and the 4th, 5th, and 9th of April were rainy—after the 10th of each month the days were clear. There was considerably more rain in March than in April; there were probably more flies and more mosquitoes in April than in March. Whooping-cough is less severe in its effects during months when patients may be outdoors most of the time; influenza epidemics have a record of spreading, particularly during weather during which there is an absence of sunshine; pneumonia is especially a disease of the winter and early spring months and many theories have been advanced to show some influence of temperature, wind-velocity, barometric pressure, etc., upon its prevalence, but no generally recognized influence has been agreed upon; in general, there is more ventilation and fewer closed doors and windows in April than in March, and this fact undoubtedly favors a lowering of the disease-incidence from general respiratory causes. On the other hand, typhoid fever, malaria and the diarrhoeal diseases are particularly diseases of the summer and autumn months. The public should demand that doctors and others report *all* cases of communicable diseases promptly, as required by law, in order that epidemics may be prevented wherever possible, and that diffuse outbreaks of disease may be studied in all their phases.

OUR GREAT EDUCATIONAL SYSTEM FOR ADULTS AND AN UNDEVELOPED AUXILIARY.

By WILLIAM F. SNOW, Secretary California State Board of Health.

What would be the result of stopping the use of the telegraph, the telephone, the cable, and the wireless methods of communicating the news of the world? What would have been the status of our civilization to-day had these devices never been invented? All will agree that their influence on the progress of the nation in every field of human endeavor has been most profound. Yet this influence would have been almost nil, so far as the general public is concerned, without the agency of the American newspapers. Through their daily work the dots and dashes of the telegraph code and the thousand and one trade-terms and tech-

nical phrases of business and science are translated into popular English, boiled down, classified, correlated, and published with attractive headlines, which greet the eye of practically every man, woman, and child at the breakfast table or before the evening fire. Without this great distributing agency the current events of the day and the new advances in science and the arts would remain largely a sealed book to the mass of the population.

The popular conception of a newspaper divides its administration under three heads—the “news,” the editorial and political, and the advertising, departments. The average citizen selects his paper largely on the basis of its presentation of the daily “news.” He may agree or entirely disagree with the editorial and political policy of his paper; and he generally takes no notice of the advertising part except as he becomes subconsciously familiar with the distribution and character of its material. The accurate and complete “news” service of our American newspapers constitutes the great educational system for popular education of adults in this country. Magazines, of necessity, deal with a different phase of popular education. They help to carry forward into permanent convictions and action the transitory thoughts and interest developed by the newspapers. Their writers have the time and money at their disposal to make thorough constructive studies of the social, industrial, or scientific problems the management considers of popular interest; but their sale can not compete with the low cost of the daily paper, and their subject-matter is not the “news” of the day in the sense implied by the American craving for a knowledge of “what is going on.” Books are still more limited in the part they play in the immediate education of the adult public. Their cost, the time required to read them, the restriction of their contents to a single subject, all operate toward this end.

Newspaper Replaces Public School Beyond Fourteenth Year for Majority of Citizens.

Any one who studies the matter must concede that the power of the press is synonymous with the power of popular education. Our educational and industrial systems give the explanation of why this is so. It may be roughly estimated* that ninety per cent of California children enter some school. Of these approximately fifty per cent have dropped out by their twelfth year of age, and scarcely more than thirty per cent are among those who graduate from the grammar schools. Thus, a clear majority of our citizens pass from the direct influence of the public school system into the ranks of our industrial army at an average age of fourteen years. They have learned to read and write and to use figures in ordinary computations; they know some past history, a little geography, and have been given a conception of the vast field of knowledge and a desire for mastering some portion of it. With this equipment they enter upon their citizenship. The average wage for all the gainful occupations in California approximates eight hundred dollars per year, and is less for those formative years below the age of thirty. Any investment in books, periodicals, or other printed matter

*These figures are based upon the data collected by Statistician Job Wood, Jr., for the office of State Superintendent of Public Instruction. Accurate estimates can not be made at present, because of duplication of enrollment, immigration of unrecorded students, etc.

must be considered carefully. It is inevitable that the daily paper, which, for sixty-five to seventy-five cents a month, comes to the door fresh with the news of the world, should be the great medium for continuing the educational work begun by the schools.

Some thirty per cent of the children originally entering school go on to the high school, but nearly one half of these drop out in the second year, and at the average age of fifteen join those who have already left school. About seven per cent graduate, and from three to five per cent go on to the universities and normal schools. Finally, not more than three per cent of the original number graduate from the universities. And afterward, when all have turned back through the doors of our educational institutions, and have set their shoulders to the task of building our commonwealth, the daily newspaper is the chief medium for the interchange of ideas which leads to concerted action. If one will stand at the gates of any of our industrial cities from daybreak till ten o'clock he will see this statement illustrated. First come the men of manual labor in the gray light of the morning with their dinner pails, their pipes, and the morning paper; then in turn the clerks, stenographers, business men, all with one thing in common—the daily paper. The conversation one hears goes in one ear and out the other without registering in our consciousness, yet the impress on our subconscious memory is proved by the familiar sound of such conversations as: "Good morning, John, do you think it is going to rain?" "Well, I don't know; the paper says the weather bureau forecasts rain." "Did you see the account of the new developments in the graft cases?"—"Do you think so? Well, my paper don't say that."—"Did you see by the paper this morning that the government officials have found a large percentage of Hindoos have hookworm?" "Yes; last night's paper had quite an account of the disease, and told just how it spread."—"Do you think the city is doing the wise thing to vote on a water-bond issue without further investigation?" "I don't know anything about it. There hasn't been much in the papers yet." Probably no one can estimate the influence of such conversations in determining his opinions upon questions of public welfare.

With health conservation, as with other public questions, progress is dependent upon so shaping popular sentiment that necessary laws may be enacted and uniformly obeyed. In matters of public health, this practically resolves itself into a problem of educating the adult population in the principles of preventive medicine. The public school system is being slowly remodeled, so that future generations will see the work of the grammar grades devoted to thorough training in citizenship and efficiency for the gainful occupations. Upon the public press has devolved the burden of training the present generation of adults, and all who have had occasion to bring any new issue before the people realize how willingly and with what earnest endeavor every man, from the reporter to the editor and on to the foreman and his lieutenants, tries to so balance the human interest of the subject with the lesson to be taught, that the public will find it readable and will remember it. A man recently said, "It seems to me I've seen and heard more talk about health preservation the past year than in all my life before." This is undoubtedly true. During the past year

the newspapers of California have published collectively more than five thousand columns of subject-matter dealing with health conditions and conservation. These columns have consisted of carefully worded information built upon local happenings and provided with appropriate headlines to catch the eye. When one considers the tremendous combined circulation represented by the five hundred or more daily and weekly papers in California, it is easy to realize the possibilities of the press as a power for good or evil.

Duty of Individual Citizen to Public Press.

The individual citizen is prone to forget—if he ever thinks of it—that the news which he reads and makes use of each day in his business or social life is reliable because it is gathered at great expense by special correspondents “early on the spot,” or by reporters faithfully making their rounds day by day. It is, perhaps, something of a duty each citizen owes to himself and the State, that he should give cheerfully and accurately such information as may be required of him by the public press. It is also a duty, perhaps, that each citizen owes to the State, that he should encourage the editor who fearlessly takes up some battle for the common good. This is particularly true in sanitation and public health matters. How many times has an editor attended a conference on some needed sanitary reform, agreed to lend the support of his paper, and launched the campaign only to find that the people from whom he expected coöperation refused to be interviewed, or to openly approve his policy, because of possible damage to their personal affairs? Or again, he has begun some campaign of education for public health improvements, which would raise the health standard of his community, and is told at the critical moment that the man, qualified to give him the technical information needed to answer questions that have been raised, is too busy to be drawn into the matter. Such occurrences are exasperating. The idea, however, of health conservation has taken a firm hold on many of the leaders of the California public press, and it only remains for health officers, educators, and others who see the need to coöperate with them in forwarding the movement.

Influence of Indiscriminate Publication of Advertisements.

Three divisions of the newspaper have been mentioned. The news items are carefully checked up and in the main are the same for all papers, the difference consisting in the form of presentation and relative emphasis given different kinds of news. The editorials are carefully written and have much or little influence, according to the standing of the editor and the popularity of the policies represented by his paper. The advertisements, however, receive no such careful scrutiny. They are accepted and printed as a business proposition. The effect of false statements on the public does not ordinarily enter into the question of their acceptance or rejection. To the publisher's eye there is always a sharp division between news and advertising matter, but to the untrained eye of the layman this demarcation often assumes only the appearance of the thin column-rule, the word “advertisements” at the column head being frequently in such small type or so far removed as to be unnoticed. Misleading statements concerning self-diagnoses, guaranteed cures, treatment by correspondence, etc.,

constitute a part of the popular educational system under consideration which is most pernicious in its influence. But it is not to be expected that the newspapers will assume the task of protecting the public from the charlatans and dishonest advertisers, whose prosperity depends on the publicity and apparent endorsement given their statements, until some definite indication is given by the public that it desires to know which are honest and which dishonest advertisers.

Many newspapers already place in all their contracts for advertising a clause reserving the right at any time without explanation to cancel the contract. A number of newspapers in California refuse outright all advertisements of medical advice or treatment by correspondence, or free consultations of "specialists for men only," etc. Such policies cost their papers heavily in advertising receipts, and this should be recognized and appreciated by the public. It would be manifestly unfair and unwarranted to say that all persons or organizations advertising medicines or medical advice are dishonest, and it is impracticable for a newspaper to determine readily the honest from the dishonest applicants for advertising space. Until the public itself devises some disinterested censorship of truthful advertising as it has devised a censorship of pure food and drugs, the papers can not reasonably be expected to make sweeping changes in their advertising methods.

The Practical versus The Desirable in Other Problems.

There is another and more serious phase of the pernicious influences in this great educational system for adults—namely, the prominence given to morbid details of suicides, murders, divorces, and other tragedies of life's failures and passions. The Academy of Medicine will meet June 24th to 26th in Los Angeles. Among the interesting statistical studies that will be presented will be one dealing with the number of suicides in the United States directly traceable to the reading of similar acts by others. How many divorces may have been precipitated by the similar influence of suggestion, is problematical. Every one knows that the "dime novel" stories of crime and adventure have a tremendous influence on boys in their formative years, and men are only boys grown up; often they are only boys with grown bodies, and will never "grow up." Newspaper editors know these influences are not good, but the incidents about which they are written are part of the human chronicles of the day; the public buys the paper that publishes the details of these stories that throb with action, passion, human courage or cowardice; as a business proposition this can not be changed until the public manifests some special approval of those papers which may make the effort to limit such material.

Fortunately, there are few papers in California, or elsewhere, which deliberately employ on their staffs, writers who distort scientific knowledge and suppress authentic news of disease and warnings to the public to combat dangers to the public health. In a long series of years such influences in our educational progress are discounted, but in any given time and community these influences may be an important factor in retarding health-conservation progress.

Everywhere there is an effort being made to rally support for the practical improvements of our educational system for children. The time is ripe to similarly support those pioneers of publicity who are building up the great system of education for adults.

An Undeveloped Auxiliary.

Perhaps half a million people daily spend an hour or more in the moving-picture theatres of the State. To any thoughtful person it must be apparent that here is an auxiliary to the daily paper which has tremendous power for good or evil. Those good souls among our impractical educators and ministers, who rail at the theatre and the moving-picture shows generally, should so far unbend as to go regularly to these performances for awhile. The ministers would find that the moving picture is to a large extent driving out of existence the low class vaudeville and barroom accordeon, as a factor in the after dinner entertainment of the citizen, tired from his or her day's labor and in need of diversion before the night's rest. The educator would find, if he studies the audience, that the orderly quiet, the unvoiced sociability, the educational lessons being illustrated on the screen, are unlimited in their influence on the upward progress of our nation, if we but encourage and coöperate with managers of this great enterprise.

For years the writer has advocated a regular moving-picture day as part of the weekly schedule in our public schools. There is every reason for supplementing the lessons in geography, history, civics, sanitation, etc., by moving pictures carefully adapted to the purpose. The student's knowledge of literature and the drama and subject-matter for English composition work are no less open to this means of making the daily tasks of our children more interesting and profitable. Some schools in California have already decided to purchase moving picture outfits, and are making a tardy beginning in utilizing this remarkable invention. It is possible and financially practicable for every school situated in a town large enough to have a "moving picture show" to make arrangements with the management to "put on" reels adapted to such school purposes, and this will ultimately come to pass. In the mean time this instrument for public education should be guided in its influence on adults.

The managers of the moving-picture shows must put on programs which will attract the public—this is a financial necessity which is self-evident, but it will be found that they will readily coöperate in any plan to convert their establishments into an auxiliary of the public press and the school. More than that, some of them have demonstrated their desire to go further, and have planned "educational days," for which they have obtained special reels at considerable expense. It remains only that the public should provide the audiences, in order to establish these methods of continuing the education of the eighty-five per cent of our boys and girls who never get beyond the first year in our high schools.

THE NEED FOR VISION IN PUBLIC HEALTH.

By J. N. FORCE, Lecturer in Hygiene, University of California.

EDITOR'S NOTE.—The Women's Clubs of California have actively taken up the cause of health conservation and have greatly influenced the recent rapid progress in this field of welfare-work. This is as it should be. Public health is essentially a problem of the home and its environment, and the early inculcation of habits based upon a full knowledge of the principles of health preservation. This address of Dr. Force before the Collegiate Alumni of San Jose is a specially strong and hopeful call to all women of California to continue and to increase their work as one of the great educational factors in health conservation.

Every forward step in the march of civilization has been possible because some one had a vision. Often the visionaries have been mocked, scorned, or imprisoned. Their bones have often marked the road, perhaps beneath grateful monuments, perhaps scattered and forgotten, but because of their sacrifices we have pressed on. That sturdy Viking who first set the dragon-prow of his open galley into the setting sun had a vision. In the country which he found we are seeing the fulfillment of a vision in which Man has conquered the depths of the sea and the heights of the air. Marconi had a vision of messages leaping through space, but Morse and Bell had visions of a world overlaid with a spider's web of wire, along whose filaments should run the nerve-impulses of commerce. Wonderfully have these visionaries contributed to our physical well-being, and to our ever-growing commercial supremacy, but have their material achievements blinded us to a realization that "where no vision is the people perish?"

In prehistoric days man was concerned with the chase and combat, woman with the cub and cave. The law of nature has not changed, but the vision has become clearer to woman, as she has become more emancipated from time and space. Shall she be obedient to this heavenly vision, and how shall it be interpreted? With her vision limited to the cub and cave, woman might produce a small oasis of right living and thinking, but she must depend for this very living on outside influences. Does it not become her duty to recognize these influences and unable, perhaps, to cope with them alone, to enlist her sisters in a movement for their regulation? Often, unfortunately, her outward vision does not reach beyond a desire for social betterment for her children, with perhaps a wish to avoid moral contamination. So she lives in a "good neighborhood" and sends her children to an "exclusive" school, while the tremendous vital issue makes unanswered appeal to her sleeping consciousness. Perhaps there comes to her, as there came to Saul of Tarsus, a heavenly vision, which is so blinding that for evermore all of life is viewed as illuminated by its light.

If you wanted to reclaim a desert would you begin by killing all the rattlers, horn-toads, and lizards around your camp, or by pulling up the sagebrush within your reach? Suppose you had done this completely, you would still have the desert more fearful than before. No; with uplifted eyes you catch a glimpse of distant snow-clad peaks, and see a vision. Obedient to this vision you would go up into the hills, let down the waters, and your desert would blossom to life. So must we have vision to penetrate the black shadow fallen across a disease-blighted home, and add to the ministrations of the family physician those of the super-physician, the preventer of disease.

The Inherent Rights of the Child.

It is my purpose to show that a mother may best guard her own home by obeying a vision which bids her join her sisters in destroying or regulating these blighting conditions which affect the public health. In all American communities we bow down and worship before the sign of the Little Red Schoolhouse, because it stands to us as the emblem of liberty. You, mothers and teachers, are disturbed and worried if a child does not "keep up" in his studies. Yet the child has certain rights that we are only beginning to respect, and whose disregard is often the most potent factor in backwardness. These rights are: (1) The right to a healthful school; (2) the right to healthful companions; (3) the right to be instructed in self-defense.

Did you ever attend a Little Red Schoolhouse? Then this picture will be a familiar one. A low-ceiled room, with small windows along one side, bright white ceiling and walls, except where equally shiny blackboards were set up between windows. A tight stove blistered the winter air, heavy with the reek of wet clothing. The pupils were adjusted to the seats. If you outgrew your seat, you were promoted. If you were too short, you dangled. Every one had a slate, generally washed with "spit," and often dried by what the massage people call "open hand friction." Every one went out to the pump for a drink, and the tin cup stayed right there. Sometimes there was a basin and roller-towel, oftener not. Wet clothes hung in friendly confusion in a tiny coat-room. The latrine was of the open-vault type, at some distance from the building, but near the well, and in summer flies were plentiful. Winter was marked by one long series of colds in the head. Everybody had one. How could they be avoided? You were lucky to escape the children's diseases, because no one sent you home until you "broke out." I had them all except scarlet fever, and like the man in "Three Men in a Boat," I could not see why I was neglected to that extent. This picture may not appear longer in our larger towns of advanced sanitary ideas, but does your county provide medical direction and sanitary survey of county schools?

In the Little Red Schoolhouse no one knew that Susie's growing pains were due to beginning "flat-foot," that Willie, who had outgrown the small front seats, was inattentive because of deafness, due to a stalactite of adenoids hanging from the vault of his pharynx, and that a marked astigmatism caused Mary to put her head on one side when looking at the blackboard. There are many Big White Schoolhouses where teachers even now need a vision to detect these defects.

In the Little Red Schoolhouse, there hung an anatomical chart, and once a week we learned fearsome things about our "innards." We learned our bones by name, how our stomachs worked, or didn't, and, above all, that by shunning the "demon rum" we could guarantee unto ourselves the perfect hygienic life. The teacher did not see a vision of the consequences of the common drinking cup, the shiny blackboard, and the unventilated room. Her hygiene came out of the book.

With a vision before them, interpreting the Little Red Schoolhouse, and perhaps the Big White Schoolhouse as well, in all their terrible wrongs to child-life, shall not the mothers and teachers insist on the growth of that beautiful flower of civilization: Medical Direction of

Schools? Perhaps you can not do this at once; but, teachers, you can at least teach modern hygiene—the hygiene of self-defense—giving simple demonstrations to the child regarding the spread of disease and care of the body. A laboratory training in preparation for this teaching should be part of every normal school curriculum. With a little study any teacher can learn to read the signs of the defective child, and any mother can make a small private sanitary survey of the school building of her child. The insistent voices of the united mothers and teachers will at last be heard, and some bright morning you will see your vision realized in a complete Department of School Hygiene, with medical director, school nurse, and reference to medical, dental, or social dispensary. At the same time you can be hammering away at your county board of education to consign the present State text in physiology to oblivion, where it belongs, and to distribute some advisory health leaflets to the trustees and teachers of county schools.

The History of Preventive Medicine Should be Taught.

A teacher once showed a Cape Cod boy a picture of Washington crossing the Delaware, and asked him if Washington was a soldier or a sailor. "He w'an't no sailor, ma'am," said the boy, "or he'd 'a had more sense 'n to stan' up in the boat." Most of our children know about Washington and many other historical figures, great because they waged war or made invention. How many know of Pasteur, and Gorgas, and Ashford, and Stiles, the redeemer of the poor white, or even of our own Dr. Blue? Yet these men have saved life, not taken it away. In the eighth grade I could tell you why the Articles of Confederation were not as good as the Constitution, but I could not interpret a simple health ordinance. One was in the book, the other needed vision. How many of us, alas, believe the patent medicine advertisements, or the more horrible seductions of the unlawful doctor? Let us train our children to the why of these things, and a generation of clearer vision will grow up to give deference to the man who prevents equally with the man who treats, but is blind to the vision of preventive medicine. Some day the smaller cities will pay a living wage to a trained Director of Public Health, who shall give half time to the school and half time to the community. Then will pass the political health officer who dares not offend lest, forsooth, he injure his private practice.

There is a very delightful old book in my home called "The Ladies' Wreath." Annie Leighton, the charming heroine of one of the short stories, announces that she "would like to die of consumption," and so she dies, carefully assisted by a fond mother, who will not let her go out of doors nor be near an open window. Our vision has cleared slightly since then, and we know the best methods of treating the White Plague, but we still cherish our delusion that only dried tuberculosis sputum can cause the disease, while we let our consumptive cooks and waiters cough over our prepared food, and man's greed plant the germs from tuberculosis cattle in the intestines of our infant population.

Do you have certified milk? If not, get your county medical society to form a commission, or perhaps your city will declare a type of milk known as "inspected," which at least is from tuberculin-tested cows, and has only 400,000 dirt germs to the teaspoonful. This, I may say, is very clean milk. The certified milk is allowed only 40,000 germs to the

teaspoonful. Teachers, you can show a dairy score-card to your pupils and explain what each step means; mothers, you can pasteurize all doubtful milk, especially from the "one cow" dairy.

The Typhoid Fever "Vision."

Every person who has typhoid fever ate or drank the discharges from another case. Unpleasant, but it is the vision by whose light we should build three walls around each patient, and three walls around our homes. The first wall is disinfection of discharges. The second wall is screening of the house and cleanliness; the third wall should be put up by the health authorities, and consists in supervision of the city sewage disposal, in tracing the source from which the disease came, and in maintaining a laboratory for the early detection of cases. The first two of these fall to you to build single-handed, the third you can have built by united effort. On the other hand, in constructing your three walls of defense, remember that typhoid comes into your home through food, fingers, and flies. Let your city inspect the water supply, and survey the private wells; screen the food stores, especially the delicatessen, which is a possible source of danger, because we eat its products without reheating; and inspect the manuring methods of the oriental gardeners who supply our raw vegetables. Let your city also regulate your neighbor's private fly-breeding establishment; it is never *your* manure pile where flies are born! You can build the second wall by your own fly screens, by considering the source of your raw vegetables, by boiling your water, pasteurizing your milk, and demanding your bakery products sealed in waxed paper. Why, even father demands that his shirts be delivered from the laundry in this way. In the Philippines we never ate raw fruit without removing the skin, never ate raw vegetables, drank only distilled water, and brushed our teeth with the same. We slept beneath fine screens, and came through free from intestinal diseases or malaria. The last defense against typhoid is to sleep right, eat right, and work right, which is all of personal hygiene.

What applies to typhoid applies to most of the contagious diseases. These are not air-borne. The avoidance of yellow fever and malaria does not lie in the province of the plumbing inspector, but in that of the reclamation engineer. Food, fingers and flies, with a small comment on the mosquito in passing—these are the essentials.

Importance of Sanitary Factories.

What a revolution in the idea of labor, if strikes should be called against some of the bad factory conditions; if the union label was a token of sanitary factories equipped with all safety devices! There would be no question of our sympathy then. At least, you can boycott the retail establishments where the health of employees is not considered, where women stand all day, and children of school age are working, when no need at home compels them. The women's boycott is a terrible big stick. We used to swing it once in a while in San Francisco during plague times, when some market man would not clean up. Simply a private note to the civic section of a woman's club, and the next day the dealer would come in, "Don't shoot, I'll come down, you've got the women against me."

In Berkeley, with the coöperation of the American Red Cross, we

are training the police in First Aid. Each man carries a First Aid packet, and we hope to place street boxes in the near future. Here is work for women, of tremendous civic value, for cities have been sued because some patrolman could not tell apoplexy from alcoholism, and an untreated unfortunate breathed his last in "the drunk tank"; or a broken leg was bundled into an ambulance unsplinted; or a clean wound was rendered dirty by careless handling.

All of the hygiene of girlhood can not be learned at school, and there is a special phase for the mother with vision, in the clothing, feeding, domestic, and moral training of her young daughter.

Formal parks and playgrounds may be beyond the scope of your city, but a step can be taken in attacking the unclean vacant lots, and studying the street-cleaning and garbage-disposal methods. Garbage means flies, and should be carefully covered at all times until its final disposal, preferably by incineration. The children in New York were organized by Colonel Waring as an auxiliary street-cleaning department with wonderful results. Waring says that he knew the fight was over when one of two squabbling children put the crusher on the other with the statement: "Anyhow, our alley is cleaner than yours."

The Fault of Laws.

And now a word about the making of laws. It has been the fault of ordinances that they punished, but did not reward; therefore, they were only half efficient as educators. While a milkman's permit should be taken away for keeping a low-score dairy, the high-score dairyman should be allowed to advertise his product as "inspected." If a man pasteurizes the cream from which he churns his butter, he should have that fact recognized by competent authority, for we know that typhoid and tuberculosis germs are eager for the fray after resting three months in cold-storage butter.

Finally, the keynote of all is need for vision; need to interpret the common insanitary occurrences to which we have been accustomed, in the light of our better knowledge; to see afar off on the hilltops the causes of our sorrows in the valley below; to make strong our own household walls; and to join hand in hand with our neighbor to strengthen the defenses of our city.

THE STATE BOARD OF HEALTH AND THE SCHOOL.

EDITOR'S NOTE.—The following series of brief articles have been prepared by members of the staff to show what the State Board of Health is doing to aid health instruction in the schools of California. This work has been particularly directed toward the rural districts, because the city schools need this aid less in this field, and because the battle against avoidable diseases must now be carried into the country if we are to make further progress.

I. The "Sanitation Car."

History of the exhibit.—During the five years prior to 1909 the State Board of Health tried a good many experiments in awakening the public to a realization of the extent and cost of preventable diseases in California. These experiments were limited to lectures, to public health conventions, and to personal efforts of the secretary and other members of the Board. In November, 1908, the Board decided to try the exhibit method which had met with such signal success in combating tuberculosis in many of the Atlantic States. This decision followed a series of

informal conferences of public health workers throughout the State on their return from the International Tuberculosis Congress in Washington.

The serious problem of transportation was eventually solved through the Southern Pacific Company agreeing to contribute the expense of transportation over its lines and to remodel one of its best passenger coaches for housing the exhibit. The Santa Fe Company also agreed to furnish transportation over its lines within the State, and the electric lines with broad gauge tracks also volunteered the use of their tracks.

The actual construction of the exhibit was begun in December, 1908, and completed the following March. It was informally opened to the public in Palo Alto, where it had been equipped by Dr. W. F. Snow, Sunday afternoon, March 28, 1909, this opening being announced from the pulpits by the ministers of the city. Dr. Snow then took the car on a trial trip down the San Joaquin Valley as far south as Fresno, returning to San Francisco Saturday, April 3d. A second trial trip was made through the cities of the Monterey Bay region. Fourteen cities with populations of from 3,000 to 30,000 inhabitants were visited, and the exhibit was demonstrated to 3,500 people. The distance covered was approximately 1,000 miles.

The purpose of these trial trips was to determine the best methods of making the public health campaign for which the car has been planned. Everywhere the exhibit met with instant and hearty endorsement. It was explained at each stop that the purpose of these preliminary trips was to elicit the suggestions and criticism of the public health workers and the professional and business men of the community. Many valuable suggestions were made, and used as the basis for a final decision relative to the plan of campaign which was formally announced in San Jose at the annual meeting of the California Public Health Association, April 19, 1909. Through the interest and desire of Governor Gillett to improve the sanitation of the rural districts of the State, this car was kept on the road continuously from this date to April, 1910.

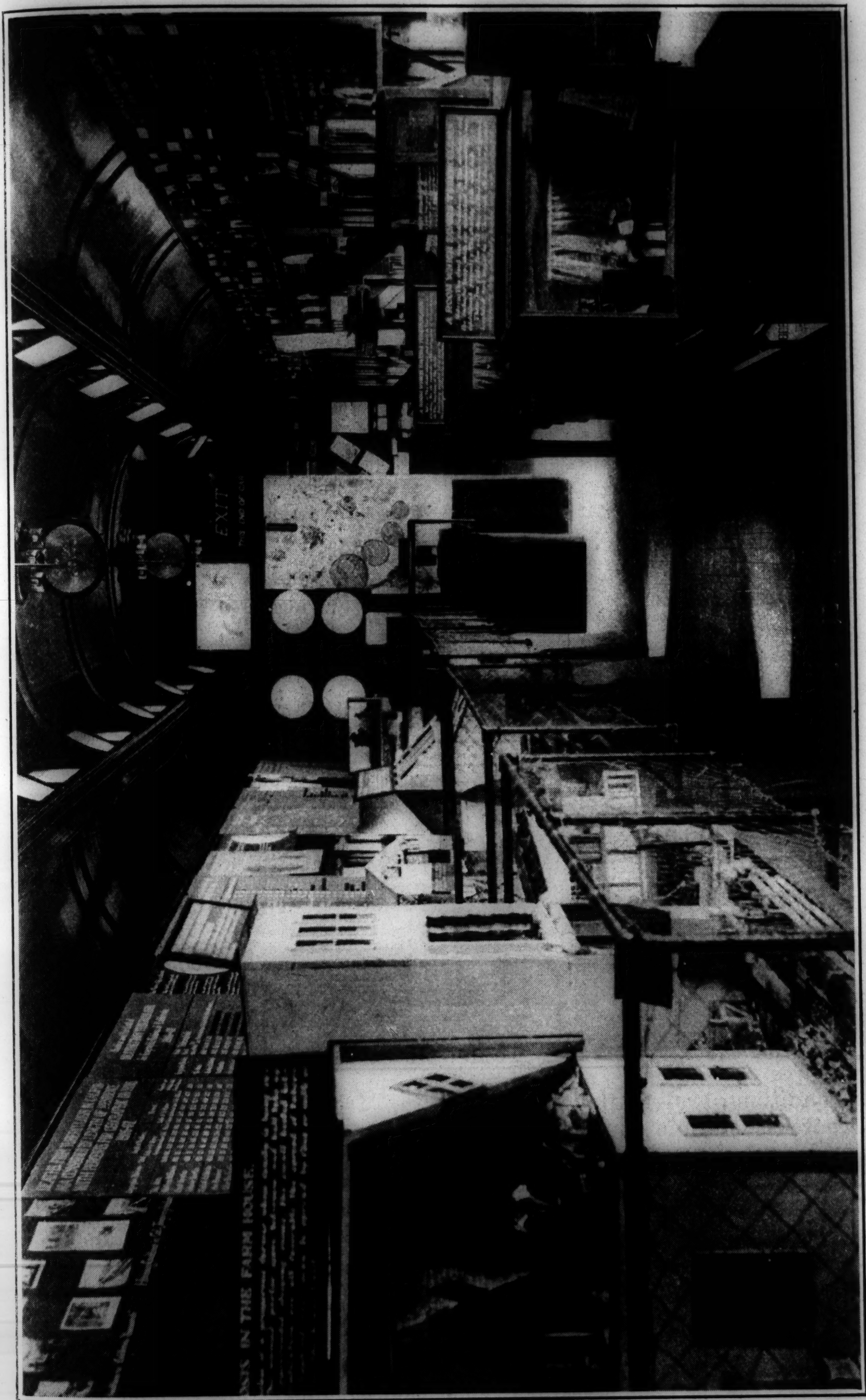
Plan of exhibit.—The vital statistics of California are made the basis for seventy-five wall charts, illustrating the cost in human lives of three preventable diseases—tuberculosis, typhoid fever, and diarrhœa. The statistics show these diseases alone to cause the deaths of approximately 6,000 people in California annually.

The contributing factors in these diseases are primarily (1) in tuberculosis, bad housing conditions; (2) in typhoid fever, bad water supplies; (3) in diarrhœa, bad milk supplies.

Each series of statistical charts has grouped about it from two to twelve models, showing in great accuracy of detail the typical ways in which each disease effects its transfer from those who have the disease to those who are susceptible to it. Supplementary groups of charts and models added to each series serve to illustrate the best methods of prevention.

Tuberculosis, typhoid fever, and diarrhœa were selected because they are typical of all the distinctive communicable diseases in California. A minor amount of space is given to malaria, smallpox, and other diseases presenting special methods of control.

Details of special interest.—The farmhouse proved of special interest to visitors. The model shows the conditions of overcrowding, lack of

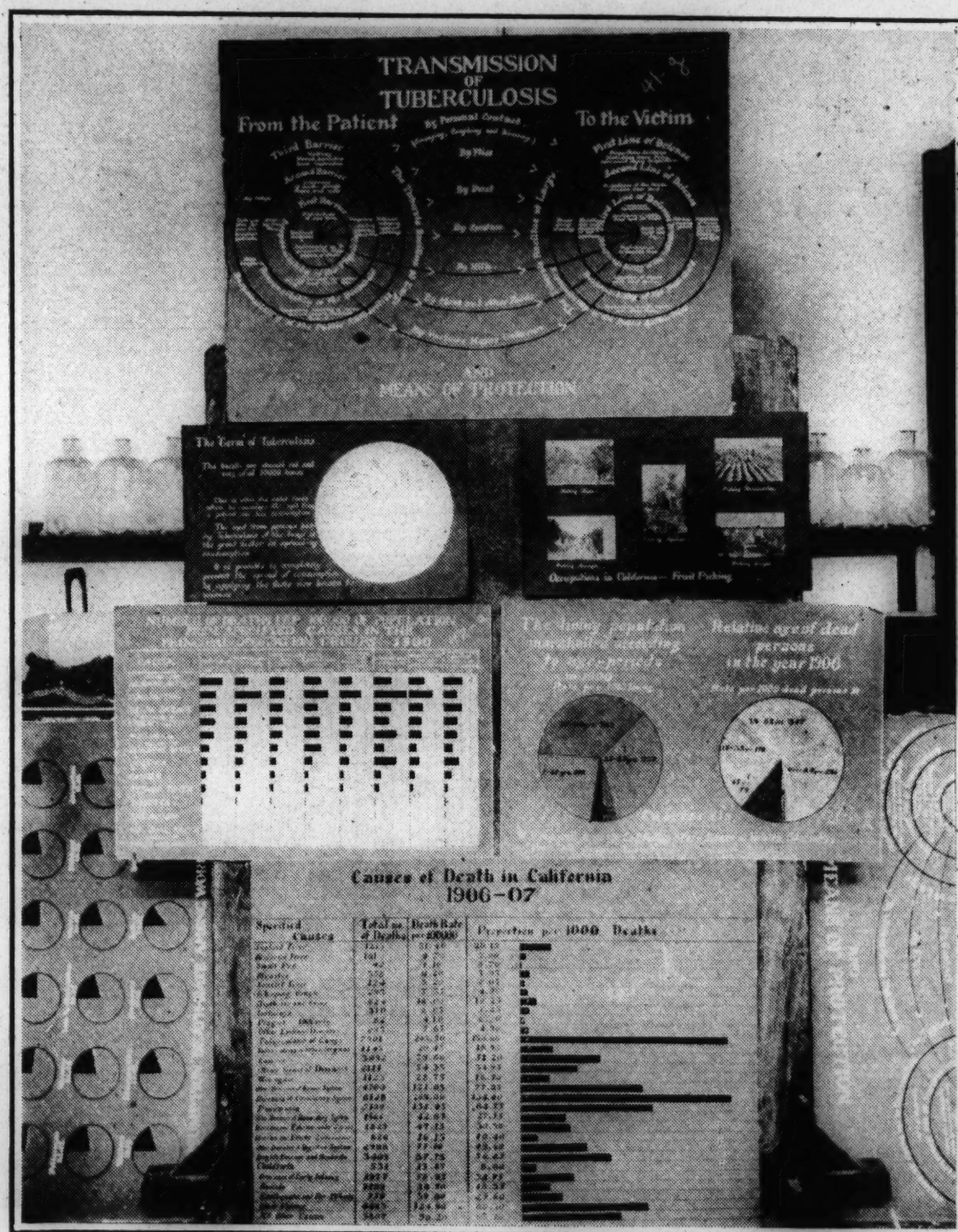


EXIT

DOGS IN THE FARM HOUSE.

ventilation, and methods of living which favor the spread of tuberculosis in a prosperous country home. A tuberculous relative visiting the family completes the essentials for demonstrating the progress of the disease from member to member of the family. The outbuildings and well of this farmhouse show the methods by which typhoid fever is conveyed from one individual to another.

Models showing tenement-house conditions and the wrong methods of taking the "fresh-air cure" proved an important feature of the exhibit. The arrangement of the apparatus is so planned that the demonstrator may emphasize any phase of the subject which he finds his audience specially interested in. The models illustrating housing



conditions lead to those dealing with "fresh-air" tents and sleeping porches, sputum cups and similar devices, and to a working model of a tuberculosis sanatorium.

This tuberculosis sanatorium demonstrates the value of the state hospital as a means of preventing the spread of the disease, not as a home for hopeless cases after it is too late for recovery. The model is constructed in three sections, (1) a city; (2) a tuberculosis tent colony in the mountains, showing convalescent patients serving as state fire rangers during the summer months, and (3) a farm colony, showing the recovered patients located in country outdoor occupations. "The hospital training school for consumptives" is the title of this model. It is easy for the demonstrator to show that each man thus trained becomes

a valuable fighting unit against this disease, which causes the death of one out of each seven of California's residents.

Several hundred photographs, showing occupation conditions favoring tuberculosis, attract much attention. One collection shows things not ordinarily thought of in connection with the subject. This list includes a harmonica, a tin whistle, a pipe, a telephone, tin dipper, lead pencils, a "family" handkerchief.

An excellent series of cultures, vaccines, and serums was contributed by the Cutter Laboratories of Berkeley, and supplemented by general culture specimens from the State Hygienic Laboratory. A model is grouped with these exhibits, showing the technique of testing a cow for tuberculosis, and the resulting reaction temperature curve. Among the illustrations of combating tuberculosis is a model showing the use of a farm kitchen as an operating room for the early removal of adenoids, tonsils, and, when necessary—tuberculous glands.

Each year approximately 400 California babies, under one year of age, die from diarrhoea and enteritis. It is estimated that less than ten per cent of these are breast-fed babies. The models accompanying the charts showing these facts represent the bad features of an average California dairy, and the improvements which should be made to render it a safe dairy. Bad milk unquestionably plays a large part in the death of these babies. This part of the exhibit is equipped with culture plates showing the growth of bacterial colonies in milk, and various devices for proper collection and transportation of milk from the cow to the consumer. The exhibit shows also the methods adopted by milk commissioners for the control of "certified-milk."

A large group of relief models showing the pollution of streams, ground water wells and springs, has been of great interest in certain localities. This group shows the various ways in which the 6,000 preventable cases of typhoid fever originate each year. Along with this part of the exhibit are shown models of septic tanks, a sand filter, dry-earth toilets, garbage incinerators, and similar devices.

Mounted specimens of disease-carrying flies and mosquitoes, and diagrammatic charts showing their anatomy are important factors of the exhibit.

A series of charts and statistics showing the value of vaccination against smallpox has been of particular interest.

The United States records show approximately 175,000 deaths annually from tuberculosis. A bell timed to ring 175,000 times in a year is included in the exhibit. The bell rings once every three minutes, and causes very general comment. Besides these features the exhibit includes specimens of pure and adulterated foods and drugs, charts illustrating the etiology and prevalence of syphilis and gonococcus infections, statistics on insanity and the possibilities of prevention of many cases.

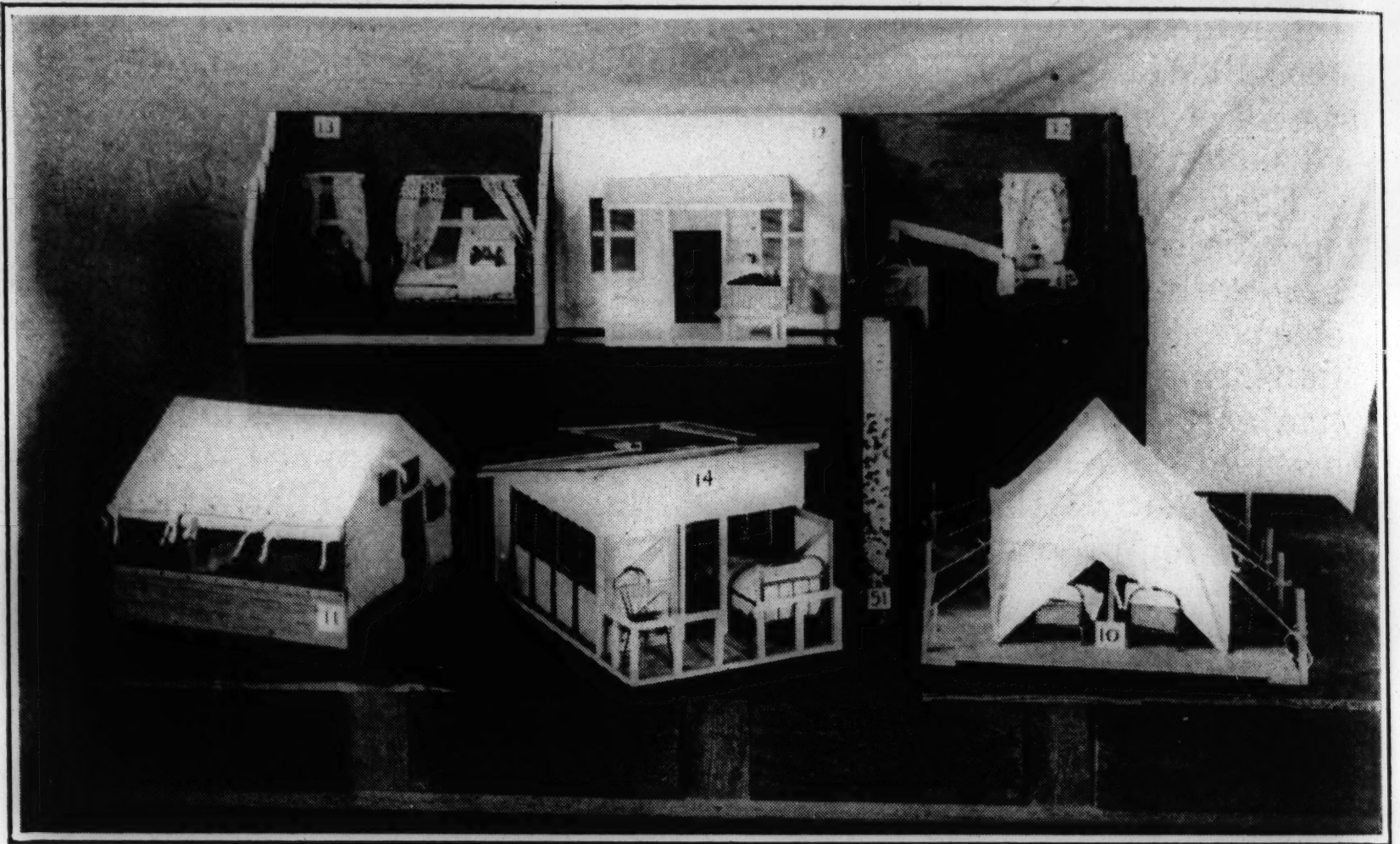
Photographs and circulars illustrating campaigns against the house fly and mosquito are used by the demonstrators in their talks, and one table is devoted to small apparatus for demonstrating before classes of children from the schools.

The car also served the purpose of distributing to interested persons a large amount of literature on tuberculosis and other preventable diseases.

Usefulness of the exhibit.—The exhibit proved to be as influential on the Pacific coast as the tuberculosis exhibits have been on the Atlantic coast. Several special lines of usefulness were suggested in the trial trips and amply verified during the ensuing year.

The citizens of many towns, with populations of 1,500 to 2,500, requested the demonstration of the exhibit as an educational factor before bond elections relating to city sewerage or water supplies.

Several city school principals decided, after studying the effects of the exhibit on school children, to have their manual training classes construct similar models for school exhibition purposes.



Two strong Woman's Civic Clubs of the State considered the advisability of having similar exhibits constructed, to be turned over to the public schools for traveling museum purposes, sections of the exhibit to be moved from school to school at bi-weekly intervals, but this failed to be carried out.

Several of the larger cities definitely organized a public health week during the stay of the car, the exhibit being supplemented by a series of illustrated evening lectures.

The trial trips made it evident that the citizens of California were ready for the movement, and that they wanted to make it count toward specific results in each community. The director of the campaign was provided with a sufficient number of demonstrators, and a field survey party in order that he might be able to intelligently discuss the specific problems which came to him in each community; and to provide the Secretary of the State Board with the details which would enable him to carry on this helpful influence after the car had passed on to other communities.

The report of the Country Life Commission, transmitted to the United States Senate February 9, 1909, included this statement: "We find urgent need for better supervision of public health in rural communities on the part of states and localities. The control is now likely to be exercised only when some alarming condition prevails." "There

is a great need for the teaching of the simplest and commonest laws of hygiene and sanitation in all the schools. The people need knowledge, and no traditions should prevent them from having it." "There are many questions of nation-wide importance, such as soil, milk, and water pollution * * *." "In general, the rural population is less safeguarded by boards of health than is the urban population. The physicians are farther apart and are called in later in case of sickness, and in some districts medical attendance is relatively more expensive. The necessity for disease prevention is therefore self-evident, and it becomes even more emphatic when we recall that infection may be spread from farms to cities in the streams and also in the milk, meat, and other farm products. Quite aside from the humanitarian point of view, the aggregate annual loss of the nation from insanitary conditions on the farm must, when expressed in money values, reach an enormous sum, and a betterment of these conditions is a nation-wide obligation."

The State Board of Health hoped that their sanitation exhibit might in some measure serve to stimulate new workers in this "nation-wide" movement, and to bring together into closer coöperation the active special organizations that were already making their influence felt in California. In this they were not disappointed, but were convinced that the interest aroused must be promptly supplemented by something more carefully studied, or the best results would be lost. The car was accordingly dismantled after a year's service, and the instruction outfits described below were substituted. Portions of the original exhibit were loaned to various welfare associations—the tuberculosis portion being kept continuously before the public of San Francisco by the Tuberculosis Association of that city.

II. The Sanitation Instruction Outfit.

By WILLIAM F. SNOW.

This outfit, as it has been demonstrated before teachers' institutes during the past year, consists of collapsible models designed for two distinct purposes—(1) the demonstration of the important facts in the protection of water supplies, in the disposal of sewage, the protection of summer camps, the control of contagious diseases, the prevention of tuberculosis, etc., before grammar school children; (2) the supplementing of high school work in physiology and hygiene by actual laboratory experiments.

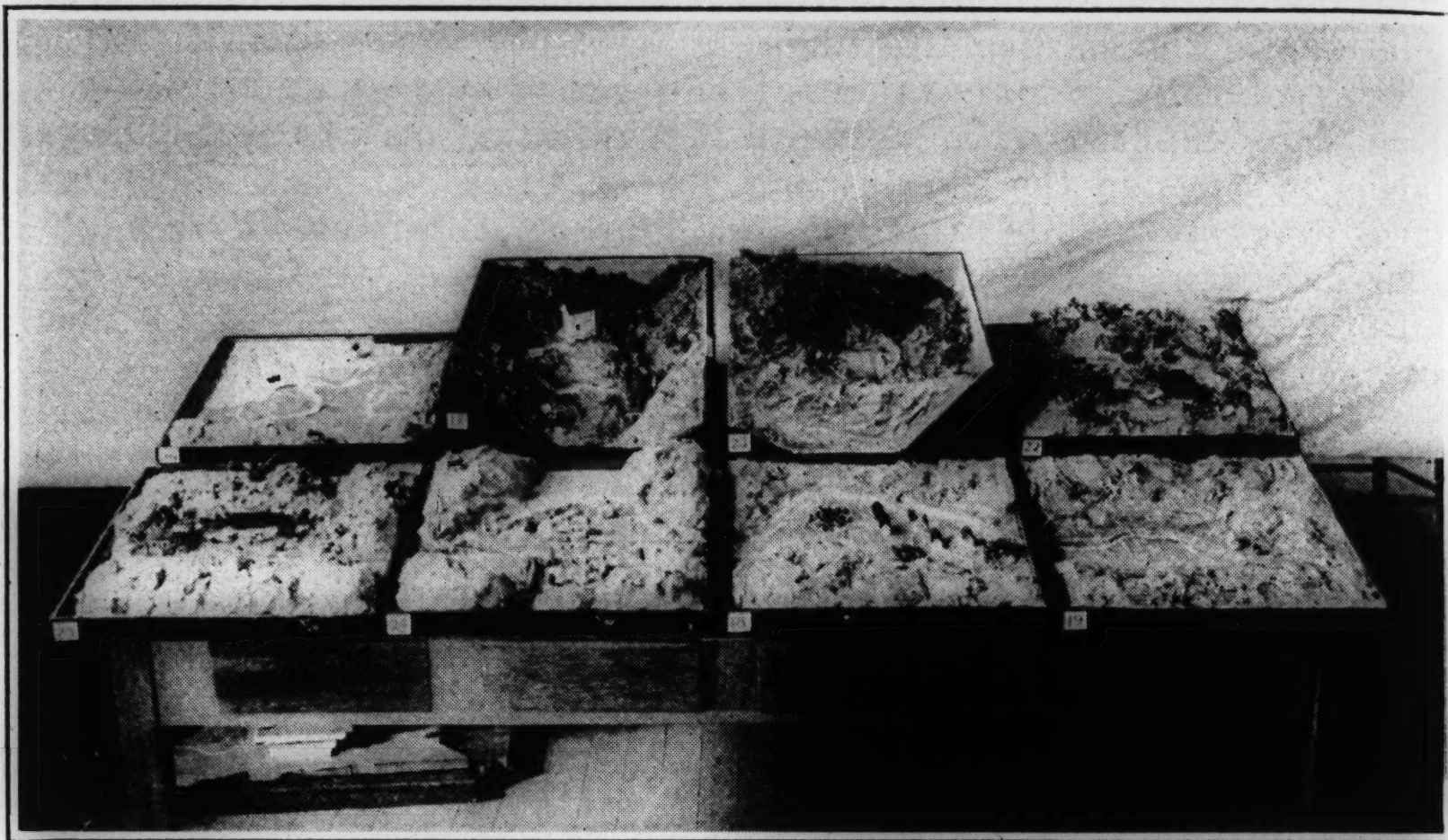
The first consists of a papier-maché relief map three feet by six feet, showing all the usual topographical features of a California county. A small box contains houses (for a city), farmhouses, barns, a summer hotel, camps, a reservoir, a dairy, a slaughterhouse, a fruit orchard, a lumber camp, vegetable garden, sewer farm, etc. These are carved out of wood. In addition, there is a miniature railroad train, stage coach, horses, cows, sheep, etc. With this equipment the demonstrator may "set the scene" to fit any lesson desired—the proper and improper disposal of sewage, for example, and as discussion among the children is developed—any of the models may be shifted to fit their ideas of health principles and laws.

The value of this method of making real and interesting to children the great principles of sanitation will be apparent to any one who tries it. The Board is now having twenty-five outfits of this character made for loaning out to teachers who are making a serious effort to teach thoroughly the required hygiene and physiology of the public schools. Instead of the papier-maché map, painted canvas maps and printed maps are being tried out in order to reduce the bulk to a convenient express package.

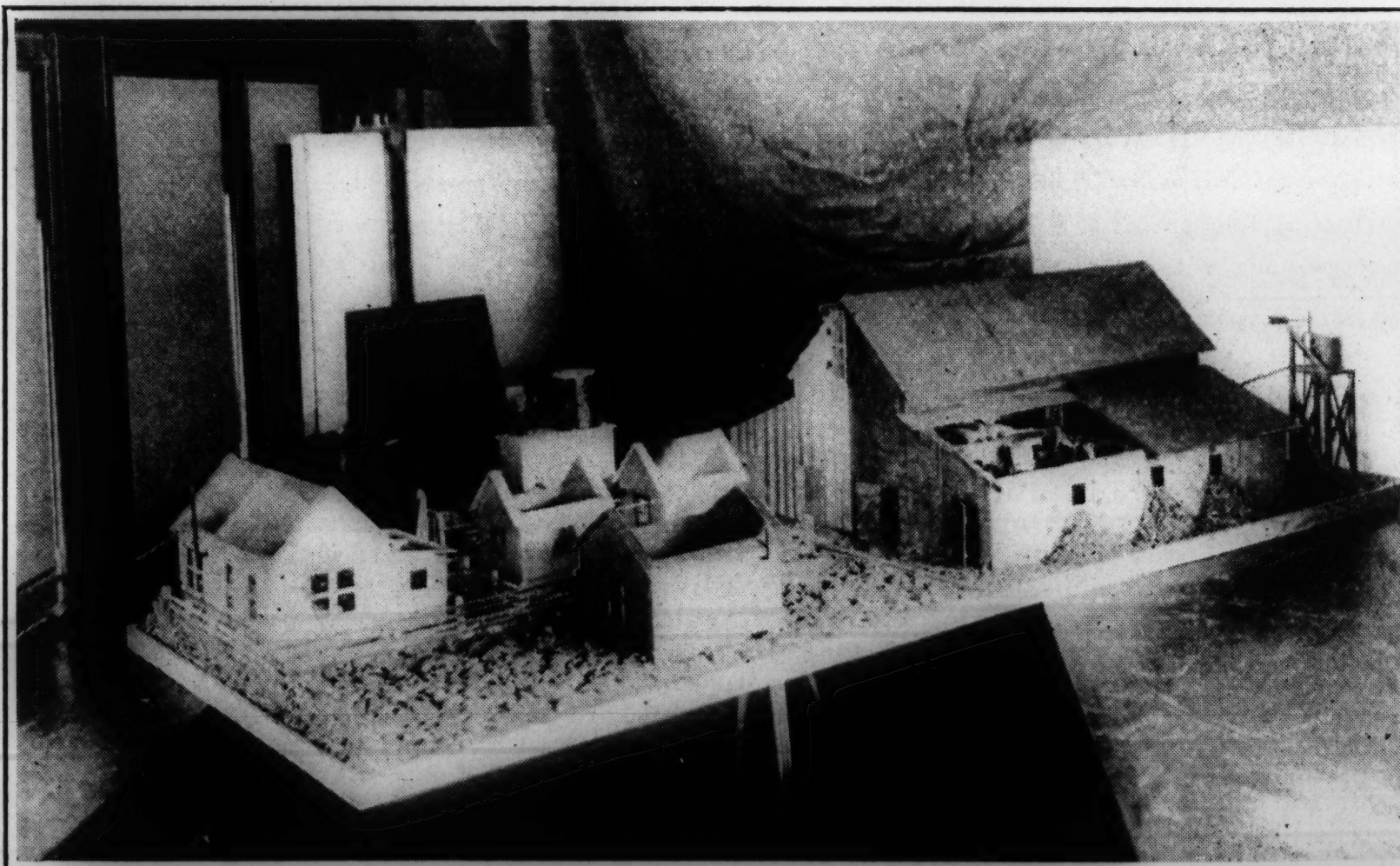
In addition to this principal piece of "apparatus" the outfit contains a hundred picture postal-cards showing California occupations, types of houses, farms, water supplies, etc., and a set of drawings of the house fly and the malaria-carrying mosquito. A dozen diagram charts of vital statistics and registration blanks for births, deaths, and marriages are also included.

This is, of course, but the nucleus of an equipment which could be built up. Some years ago a teacher in Wisconsin published a description of a tuberculosis outfit which she required her children to construct. Her boys made open-air sleeping-porch models, and the girls dressed dolls in accordance with their interpretation of what the text-book said about clothing. Some of this pioneer work was shown at the International Congress on Tuberculosis in Washington in 1908 and attracted wide attention.

The second portion of this laboratory apparatus for teaching health conservation



consists of a series of working models for class work in high schools. There is a complete dairy, made in separate parts, which may be put together like a child's puzzle blocks to make eight different types of equipment, *i. e.*, the barn may be two story, with hay and grain lofts over the milking barns and milkroom, or may be arranged all on one floor, but under one roof, or in separate buildings, etc.; the well and windmill may be located in the corral yard or at a distance; there may or may



not be a "bunk-house" used for the men, etc. In class work it is proposed that two or more students shall use this outfit of utensils and building sections (after having been given instruction as to the essentials of a sanitary dairy) to construct their idea of a *practical* sanitary dairy. This will then serve as a basis for each student in the

class to make a "score card" report on the completed model. Other sections of the class may then be assigned to the "experiment." Upon the basis of preliminary work in "scoring" laboratory models, the class should be taken to the actual dairies supplying their community with milk, and their scores checked up by comparison with those made by the city inspectors. In time our high schools should be equipped as fully for such work as they are now equipped with microscopes, chemical apparatus, or instruments for experimental physics, chemistry or biology. The cost of providing separate working models for each two students would not be prohibitive for our larger schools.

The limited space in this Bulletin will not permit more than this suggestion of ways in which instruction in hygiene and public health may be made practical and interesting to the students. Suffice it to say that the entire field can be covered by just such practical and inexpensive apparatus. This has been done with freshmen classes at Stanford University for five years, and should be extended to our high schools. The State Board of Health in sending out these demonstration outfits is endeavoring to stimulate this work along practical lines in the schools, as one of the important methods of making permanent progress in public health work.

III. The Bacteriological Instruction Outfit of the California State Board of Health.

By W. A. SAWYER, Director of the State Hygienic Laboratory.

In order to insure the success of various measures directed against communicable diseases, Dr. William F. Snow, Secretary of the California State Board of Health, for several years has been developing and carrying out a plan for the instruction of the people along public health lines. An important part of his plan has been the giving of assistance to lecturers, and especially to teachers, in their efforts to safeguard the public health. The Director of the Hygienic Laboratory has taken a part in the work of devising a bacteriological instruction outfit illustrating the scientific basis of many important hygienic measures. Suggestions by Dr. Snow, by Miss Margaret Henderson, instructor in bacteriology in the University of California, and by Miss Boring, lecturer for the State Board of Health, are responsible for many of the good points of the outfit.

The glassware is enclosed in a stained redwood box 10 inches long and 5 inches square at the ends. The sides are about half an inch thick. The cover opens along one of the long edges of the box and exposes the entire contents to view. Brass strap hinges and a brass hasp and padlock fasten the cover to the box. A lining and partitions of corrugated paper prevent breakage of the contained glassware.

The total cost of each box and its contents, exclusive of media and labor in preparing specimens, is about two dollars and sixty cents when bought in quantity. The purchase of Petri dishes involves half of the total expenditure.

Within the cover of the box is pasted the following key to the contents. The slides, Petri dishes, and culture tubes are numbered to correspond to this list.

Enclosed in the outfit is the following circular, stating briefly the lesson in hygiene which each specimen is intended to illustrate:

CALIFORNIA STATE BOARD OF HEALTH.

STATE HYGIENIC LABORATORY, UNIVERSITY OF CALIFORNIA, BERKELEY, CAL.,

BACTERIOLOGICAL INSTRUCTION OUTFIT.

I. A box containing twelve microscopic slides. These should not be used except for demonstration by some one skilled in the use of the high-power microscope and familiar with the essentials of bacteriology.

1. *a* (Left-hand coverslip).— A stained smear of sputum from a person having tuberculosis of the lungs. The germs of tuberculosis (*tubercle bacilli*) appear as slender, red-stained rods, often somewhat beaded, lying among blue-stained pus corpuscles. The specimen indicates the infectious nature of the sputum of tuberculous individuals and shows the importance of carefully destroying the expectorated material. At the request of physicians, the State Hygienic Laboratory searches sputum for tubercle bacilli for purposes of diagnosis.

b (Right-hand coverslip). A stained smear of material obtained by swabbing the throat of a person having Vincent's angina. Long blue-staining rods with tapering pointed ends (*bacillus fusiformis*) and slender, wavy, thread-like structures (*spirilla*) are present in large numbers and are the germs causing this disease. The disease is of interest chiefly because it produces in the throat a membrane resembling that of diphtheria. This disease is common in California. It cannot be readily identified except through the use of the microscope.

2. *a* (Left-hand coverslip) (Stained with Loeffler's methylene-blue). A smear from a culture of diphtheria bacilli isolated from the throat of a person having diphtheria. The germs of diphtheria appear as slender, blue-stained rods often showing swollen, deeply stained rounded ends. These germs are present in large numbers in the throat of a person having diphtheria and are the means of infecting others. Strict quarantine is necessary. The only reliable method of diagnosis is through the examination of cultures. This is done for physicians by the State Hygienic Laboratory.

b (Right-hand coverslip) (Stained with toluidin-blue). Another smear from a culture of diphtheria bacilli. These germs are stained so as to bring out their characteristic granules and to make identification easier and more conclusive.

3. *a* (Left-hand coverslip). A smear of typhoid germs (*Bacillus typhosus*) from a culture obtained from a person having typhoid fever. The contamination of food or drinking water with these germs by material from individuals having typhoid fever, or acting as "carriers" of the germs subsequent to an attack, frequently results in widespread epidemics. The diagnosis of typhoid after the first few days of the disease can be made in the laboratory by watching the effect of a minute quantity of a patient's blood on live typhoid germs. The State Hygienic Laboratory makes these tests for the Widal reaction for physicians.

b (Right-hand coverslip). A thin smear of blood taken from the ear of a person having malaria and stained with a blue and red stain (Wright's). Search will reveal malarial organisms inside some of the red blood corpuscles. The blood was inoculated with malarial germs through the bite of a certain variety of mosquito which had been previously infected while biting a person having the disease. To eradicate the disease, mosquitoes should be destroyed and human cases should be cured. The State Hygienic Laboratory will search for malarial organisms in smears of blood at the request of physicians.

4. A stained smear of the germs of plague from a culture obtained from an infected rodent in California. The germ (*Bacillus pestis*) is a short, plump rod staining deeply at its rounded ends. Plague has been present in California in human beings, rats, and squirrels. The U. S. Public Health and Marine-Hospital Service has checked the disease in human beings by directing a campaign against the rats, which were perpetuating the disease and transmitting it to man through the medium of their fleas. Now the government is insuring against infection of man by killing off ground squirrels in order to destroy those which have plague.

5. A smear of pus from a case of gonococcus infection. The germs are seen in large numbers within the pus corpuscles. These germs are the cause of a common preventible disease which frequently causes a severe infection of the eyes of babies and often produces blindness. The State Hygienic Laboratory will search smears of pus for the presence of the gonococcus when the material is properly collected and sent by physicians.

6. A smear of the brain-substance of a California dog having rabies (hydrophobia). Search will reveal small, round, red-staining structures within the large nerve cells. These red-staining structures are called Negri bodies and are characteristic of rabies. The disease has recently appeared in California, and its spread through the bites of rabid dogs to other animals and human beings should be opposed by stringent muzzling ordinances. The heads of dogs may be sent by physicians, health officers, or veterinarians, to the State Hygienic Laboratory for examination of the brain for evidence of rabies.

7. *a* (Left-hand coverslip). A smear from a culture of a common germ which frequently infects hair follicles or wounds of the skin and causes pus formation (*Staphylococcus aureus*). This germ is commonly present on the surface of the skin

and frequently causes boils and carbuncles. Frequent cleansing of the skin diminishes danger from this organism.

b (Right-hand coverslip). A smear from another pus-producing germ (*Streptococcus pyogenes*). This germ tends to grow in long chains, while the germ mentioned above grows in clusters. The streptococcus is very dangerous, owing to its tendency to spread in the body from an infected wound and to produce a condition popularly known as "blood poisoning." The greatest cleanliness should be observed in the handling of wounds.

8. A smear of the germs of Asiatic cholera. This disease is being kept out of the United States by efficient quarantine regulations. As an additional safeguard the Federal and State health authorities coöperate in keeping under observation all persons who have come from countries where cholera is prevalent.

9. *a* (Left-hand coverslip). A smear of the germs of anthrax. These germs cause a very fatal disease which is common among cattle in California, and is sometimes transmitted to man. The bodies of animals dying from this disease, without being cut, should be burned or deeply buried in a dry place, from which cattle are excluded by a fence. Infection of pastures persists indefinitely and should be scrupulously avoided.

b (Right-hand coverslip). Another smear of anthrax bacilli. This smear is strained to show the spores which are present within the rod-shaped germs. Spores are oval or round bodies which are very resistant to influences tending to kill bacteria. The germ of lockjaw (tetanus) also has the power of forming spores. Only a few of the disease-producing organisms have the power of forming spores with the purpose of resisting destruction under unfavorable conditions.

10. A smear of tissue from a rat infected with rat leprosy. This disease is common in rats in California, and its germ is indistinguishable in appearance from that of human leprosy, but no casual connection has been demonstrated. Human leprosy is not common in California, and the cases are kept isolated in institutions. The germs in the specimen are stained red.

11. A smear of the blood of a rat from California. In the blood between the corpuscles may be seen peculiar one-celled animal organisms belonging to the group known as trypanosomes. The germ causing sleeping sickness in Africa is a variety of trypanosome. No human diseases caused by trypanosomes have been introduced into California. Some varieties of trypanosomes have been shown to be transmitted in the tropics through the bites of certain flies.

12. A smear of the blood of a California ground squirrel. The long, worm-like organisms are the embryos of a round worm (a variety of filaria). Human disease due to filaria is unknown in California, except in rare instances in people from other countries. A disease due to a variety of filaria is common in certain parts of the tropics. The disease is transmitted by mosquitoes.

The State Hygienic Laboratory is indebted to Dr. G. W. McCoy of the U. S. Public Health and Marine-Hospital Service for the slides numbered 4, 8, 10, 11, and 12.

II. Ten plates of medium adapted to the nourishment of bacteria. Nine of the plates are sealed and show killed bacteria. The tenth is ready for experiment in growing germs.

1. Bacteria from the rim of a public drinking cup. Each spot represents the growth from one germ. Some of these germs are probably capable of producing disease. The public cup should give way to sanitary drinking fountains and individual cups.

2. Germs growing in the tracks of an ordinary house fly. This plate shows that germs cling to the feet of the fly and are carried from one lighting place to another. The germs of such diseases as typhoid and tuberculosis may be carried on the feet of a fly and may be deposited in food or drinking water. The use of screens and the removal of material in which flies breed greatly diminish this danger.

3. Germs growing on a plate which had been exposed to the still air of a house for five minutes. Very few germs are present. This shows that still air is almost germ-free and therefore does not transmit disease.

4. Germs growing on a plate exposed the same length of time as the preceding plate in a room during dry-sweeping. The numerous spots show that many live bacteria are present in dust, especially those able to survive drying. The danger of disease may be lessened by moist sweeping and moist dusting, especially in the sick room.

5. The plate was covered with bacteria. Then all parts were shaded except the triangular area, and this space was exposed to the direct rays of the sun. The killing effect of sunlight is shown by the absence of growth of the germs in the triangular area.

6. The spots show the number of live bacteria in 1/100 of a cubic centimeter of ordinary store milk. A teaspoonful of this milk would contain 500 times as many germs as are shown. Fortunately, most of these are not disease producing. Death among babies is commonly due to the presence of dangerous bacteria in such milk.

7. The spots in this plate show the number of bacteria in the same amount of certified (clean) milk. A few bacteria are unavoidable in the cleanest of milk, but these are not disease-producers.

8. Germs from an ordinary clean finger, which was gently drawn across the surface of the plate. The number of live bacteria can be greatly diminished by washing the

hands thoroughly in soap and water. This should always be done before handling food or dressing wounds, and after caring for the sick.

9. This plate illustrates the killing effect of simple boiling on bacteria. The two threads were dipped in a fluid containing bacteria. One was laid on the plate at once; the other was placed in the steam of boiling water for five minutes and then placed on the plate. The first showed abundant growth and the second was sterile. Heat is the most efficient and readily applicable method of killing germs. All the common disease-producing germs are killed by heating to the boiling point.

10. Sterile agar plate. This may be used for experiments, illustrating the collecting and growing of bacteria from fingers, fly-tracks, cups, etc. Many common germs when placed on the surface of the plate find suitable nourishment and multiply. A favorable temperature hastens growth.

III. 1. Killed culture of tuberculosis germs from a human source. The germs were allowed to grow three and a half weeks on the surface of the medium (glycerine agar).

2. Killed culture of diphtheria germs. The germs were allowed to grow about fourteen hours on the surface of the medium (Loeffler's blood serum). The small, round, elevated spots consist of large numbers of germs.

IV. Sanitary contrivances. Furnished in separate package, when desired.

1. Folded paper showing pattern for extemporizing a drinking cup.

2. Pocket paper drinking cup coated with paraffine.

3. Pocket paper receptacle for sputum.

4. Paper towel, intended to replace the public roller towel and to diminish the transference of infections, especially those of the eyes.

V. Sample mailing outfits, such as are furnished by the State Hygienic Laboratory for use of health officers and physicians in forwarding specimens to the laboratory. Explanatory literature accompanies the outfits.

"This instruction outfit is the property of the California State Board of Health. Applications for the loan of such outfits for purposes of instruction should be made to Dr. William F. Snow, Secretary of the State Board of Health, Sacramento, California. The outfits are loaned for temporary use, and should be returned promptly (express prepaid) to the State Hygienic Laboratory, University of California, Berkeley, so that they may be reissued for the use of others. Please mail the key of the padlock on the box in an envelope."

As soon as it became known that a bacteriological instruction outfit was being prepared, applications began to be made for the loan of outfits. It is now apparent that they will be put to a considerable use. It is hoped that these outfits will have a distinct effect in helping to produce concerted action in the suppression of disease.

IV. Pure Food and Drug Inspection Outfit.

By PROFESSOR M. E. JAFFA, Director Food and Drug Laboratory.

The State Food and Drug Laboratory is preparing an exhibit along educational lines, consisting of microscopic slides, bacteriological cultures, and specimens of raw material and manufactured products therefrom. The slides, of which there will be about twelve in number, consist of authentic samples of cereal and other starches and mixtures thereof. This will be of special value to teachers and others in the matter of identifying cereals when added as an adulteration to spices and meat food products, etc.

The cultures will include those prepared from a first quality catsup and very inferior articles of the same description. Similarly with reference to high grade and pure quality jellies. Cultures will also be made from old flour which will plainly indicate the necessity of only using fresh material. This will be emphasized by cultures made from freshly milled flour.

The great advantage of having a pure milk supply, will also be shown by cultures being made from certified milk, and those from the ordinary dairy milk.

Cultures from butter will also be included in the exhibit, such cultures being prepared from butter made from efficiently pasteurized cream and cultures made from ordinary butter which has been manufactured from

cream not pasteurized. The cultures will be prepared on four-inch Petri dishes.

One feature of the exhibit will be trays 12 inches square, about half-inch deep and glass covered. These trays will be divided into nine compartments, approximately four inches square.

It will be endeavored to illustrate by these trays the difference between the raw and the manufactured article. For instance, there will be three trays devoted to corn and its products. One of these trays will contain samples of the grain and the bran, germ, etc.; the second tray will contain different forms of starches and dextrins, while the third tray will illustrate the different forms of sugar which have been manufactured from the starch. These, of course, all being either in powder or granulated condition. The other trays will illustrate the different cereals and the manufactured products.

Drugs will also be exhibited in a similar manner, so as to illustrate the raw and finished product.

Another, and it is hoped an interesting feature of the educational outfit, will be trays containing samples of the permitted coal-tar colors, and also those which are not allowed. An examination of the different specimens shown will clearly indicate the necessity of chemical examination of artificially colored foods. This being emphasized by the fact that there is no difference in appearance between a food product colored by a harmless green or a harmless yellow, and that colored by the injurious corresponding color. There will be several trays devoted to this part of the exhibit.

V. A Bibliography for Public Health Instruction, With Comments.

By ORA BORING, Special Lecturer California State Board of Health.

The comments which are given below are intended to briefly sketch a tentative order of arrangement and association of subject-matter which may be employed to advantage in outlining a practical course in health conservation. The laboratory demonstration materials, charts, and outfits, which the State Board of Health loans to interested teachers who begin this work, have been described in various ways during the past two years and are briefly summarized in this bulletin. During the past winter a series of practical papers on "Making Hygiene Interesting in the Grammar Grades" was begun in the Western Journal of Education. The first three papers of the following list have been printed:

TWELVE PAPERS ON SANITATION.

Suggesting Work Suitable and Desirable for Use in the Grammar Grades of the Public Schools.

Subjects considered:

- Introductory Discussion.
- 1. Vital Statistics.
- 2. The "Big Five" Preventable Diseases.
- 3. Malaria.
- 4. Tuberculosis.
- 5. The Five Great Weapons of Preventive Medicine.
- 6. Vital Resistance—The Five Essentials For Its Maintenance.
- 7. Air.
- 8. Water.
- 9. Foods.
- 10. Rest and Exercise.
- 11. How the Government Works to Protect the Public Health.
- 12. Some Heroes and Martyrs of Preventive Medicine.

The comments making up the rest of this paper are arranged under the headings just enumerated. It is hoped that they may be useful

to teachers of rural and urban grammar schools where there is no special supervision of the work in physiology and hygiene. It is believed that they provide material useful for illustrating and demonstrating by laboratory method the essential facts upon which depend the protection of the public health and the increase of individual vitality.

Although the State Board of Education has recently adopted an excellent "text-book giving due attention to hygiene and sanitation," the book will not be in the hands of the teachers and pupils for some months. Meanwhile, the reading references given in this paper—many of them State and federal government reports, to be had for the asking—will supply abundant material for interesting study of local health conditions, and should lead to practical results in the prevention of typhoid fever and malaria, and in other needed sanitary reforms.

The bibliography for each heading contains material for a number of class lessons, with reading references, laboratory exercises, and field work for securing practical results.

INTRODUCTORY DISCUSSION.

Hygiene and sanitation constitute the fourth "R" of the public school studies—Right Living. The schools should join the other civic forces of the State and Nation in their efforts to teach the principles and practices upon which the public health depends. Such instruction is needed in California.

Definite instruction in sanitation should begin as early, at least, as the sixth grade of the elementary schools. The laboratory method is the natural method for instruction in these subjects, and material for observation and experiment is abundant and available in all school districts. Such class work should include actual correction of insanitary local conditions wherever circumstances permit such action, as in the fight against flies and mosquitoes.

1. THE VALUE OF GOOD HEALTH, A LABORATORY STUDY OF VITAL STATISTICS.*

Vital statistics taken from the National Conservation Committee's report on National Vitality,¹ the biennial reports and bulletins of the California State Board of Health,² and the report of the Superintendent of Public Instruction for 1910³ together with a table† showing the money value of the average American workingman's life at each year from birth to old age, made from estimates of his capitalized earning power given by the National Conservation Committee, should be made the basis for statistical demonstrations.

Class exercises may readily be arranged demonstrating: "The Capitalized Value of the Children in California's Public Schools"; "California's Great Annual Loss from the Deaths of Her Babies Through Preventable Diseases"§; "The Annual Loss from Typhoid Fever"¹⁶; "The Gain Through a Decrease in the Typhoid Fever Death Rate."¹⁷‡

* The numbers given by superior figures throughout this synopsis refer to reading references given at the end.

†Dr. Wm. F. Snow made similar estimates based on California conditions as reported by the Labor Commissioner, and reached substantially the same results.

§Of the 30,882 babies whose births were reported to the State Health Officer in 1909, 3,480 died before they had lived a year, very few of them from other than preventable diseases.

‡This decrease was due to improved sanitary conditions.

2. THE FIVE BIG PREVENTABLE DISEASES.

The record of the deaths due to the "big five" preventable diseases for 1906-1909, these showing an increase in the number for 1909 as compared with 1906 except in typhoid fever, which shows a reduction of about 200 deaths. The financial account of California with these diseases, tuberculosis, syphilis, gonococcic infections, typhoid, and malarial fevers, shows an estimated cost of \$70,539,180 for 1909,¹⁶ a little more than the value of all the live stock in the State, according to the report of the State Agricultural Society.

The causes of the spread of typhoid fever and the methods of state and municipal authorities in dealing with it, may be used to illustrate the community problems in preventing disease.

Laboratory Exercises: Study of county statistics and the state map, showing the distribution of typhoid fever throughout the State, in relation to stream pollution. Study of local conditions and statistics. The life-history and habits of the "typhoid fly." Culture of bacteria from fly tracks. Examination of killed culture of typhoid fever bacilli, and other material from the State Hygienic Laboratory.

3. MALARIA IN CALIFORNIA.

The bibliographical material covers the following general subjects: A very brief sketch of the history of malaria and of the successive steps in the discovery of the malarial germ and its strange dual life.¹⁹ County statistics showing the disease to be prevalent only in those parts of the State where water is abundant and carelessly used. Unlike typhoid, which has as high a death rate south of Tehachapi as north of it, malaria seems to occur only in "imported" cases in Southern California, where there is no stagnant water to afford breeding places for the malaria-carrying mosquito, *Anopheles*.¹⁶ Account of a successful anti-mosquito campaign conducted last year by Penryn, Placer County, and already opened again for the summer of 1911.¹⁸ Plan for a school campaign against mosquitoes, outlined in the February number Western Journal of Education.

Laboratory exercises should include use of clinical thermometer; observations of pulse-beat during rest and activity; study of life-history of mosquito in field and in schoolroom.

Field Work: "Mosquito survey" of definite area and eradication of mosquitoes from it.

4. TUBERCULOSIS IN CALIFORNIA AND HOW TO HELP THE FIGHT AGAINST IT.

1. Tuberculosis shown by convincing statistics to be a disease of the masses.^{1, 16} Main items of loss from tuberculosis. Means by which the disease has become so widespread. Direct measures for prevention.^{16, 17} Headway already made by use of these measures. Proof of curability. "No Tuberculosis by 1950" the motto of the International Anti-Tuberculosis Congress, a possibility with a big "If."²⁰

Laboratory Exercises: Examination of various individual drinking-cups, paper towels and handkerchiefs, sputum boxes and "envelopes," tuberculin testing outfit used by dairymen, killed cultures of tubercle bacilli and carrier of sputum for diagnosis at the State Hygienic Laboratory, pictures, charts, and slides.

2. Cultures of bacteria made from unwashed hands and hands carefully washed with soap and water. Sound and unsound fruit exposed to mould to show effect of favorable and unfavorable environment and weakened resistance. Action of disinfectants, carbolic acid, formaldehyde, and alcohol. Models of sleeping porches, tent-houses, and other models that may be readily constructed or illustrated by photographs.

5. THE FIVE GREAT WEAPONS OF PREVENTIVE MEDICINE

(by which, at least, 80 per cent of communicable diseases can be eradicated).

Offensive and defensive lines of preventive medicine. The three defensive weapons: Hygienic Conduct of Life, Vaccines, and Anti-toxins. The two aggressive weapons: Quarantine Measures and Disinfection. Use of these weapons in the fight against the "Big Five," the "Little Four,"* Pneumonia and "Colds."

Laboratory Exercises: Vital statistics used to demonstrate the results of the use of vaccines and anti-toxins of various diseases. To show the losses due to disregard of quarantine and disinfection with the "Little Four." Examination of materials from the State Hygienic Laboratory. Experiments illustrating the effect of hygienic living on plants, and the effectiveness of quarantine and disinfection on common harmless bacteria.

6. VITAL RESISTANCE.

The body possesses great power for resisting and overcoming disease. Both resistance and the power to overcome can be strengthened by hygienic living. The body is a community of living cells. Each cell must have its own supply of the five essentials: Clean air, clean water, clean and nourishing food, and properly related rest and activity.

The work of doctor and nurse mainly reënforces the powers of the body by providing it with the most favorable conditions during the struggle with invading disease. They help it to rid itself of the poisonous products of the disease, supply it with foods that tax the digestive powers as little as possible and reach the cells quickly with the needed nourishment; supply "fresh" air to the cells without chilling the body; secure rest to the over-burdened nervous system. In cases of some germ diseases they reënforce the germ-killing powers of the body by anti-toxins or other biologic product.

Laboratory Exercises: Ample exercises are outlined in any of the laboratory manuals of biology and physiology to cover this subject.

7. AIR. ITS RELATION TO VITAL RESISTANCE.

To be wholesome, air must contain as little dust as possible, a certain amount of water vapor, and not more than 6 parts of carbon-dioxide in 10,000 parts of air. Must be free from all disease germs. House air must be so renewed by ventilation that each expiration of the occupant is diluted with 200 times its volume of fresh air. With these conditions provided, and the wearing of appropriate clothing, a room

*Measles, whooping-cough, diphtheria, and scarlet fever constitute the "Little Four."

temperature of not much, if any, about 65° F. should be comfortable to sit in.

Laboratory Exercises: 1. Most of the physiology manuals contain simple experiments on ventilation. In addition, the local health officer will aid the teacher to devise:

2. Tests of air in schoolroom by odor, general bodily effect, and by CO₂ test;

3. Air currents of schoolroom tested as to direction and velocity—Supply of fresh air entering computed and conditions compared with standard requirement for the cubical capacity of the room and the number of occupants—Humidity of air tested by simple device;

4. Use of wall thermometer—Devices for securing adequate ventilating under existing conditions of heating and lighting;

5. Bacterial cultures from air of room at time of dry sweeping; at time of sweeping with dampened sawdust on floor (or oiled sawdust).

8. WATER. NECESSITY OF PUBLIC CONTROL OF SUPPLIES.

Quality of drinking water is not in most cases controllable by the individual. Sources of water supply in California. Stream pollution.²² Some painful object lessons showing the necessity of state control of the streams of California. National lesson taught by Lawrence, Mass. Natural means of purification. Some effective scientific methods of purification. Some successful municipal experiences in establishing abundant pure-water supplies. The classic story of the "Broad Street Pump" as the source of a cholera infection in London. A California well that caused a deadly epidemic of typhoid fever. Protection of wells. Disposal of sewage.

Laboratory Exercises: Maps and models for developing the dangers, and means of protection and prevention of *stream-pollution*. Models illustrating the pollution of wells by seepage, and method of sewage disposal. Study of local water supplies and waste disposal. Efforts to trace possible sources of typhoid fever cases occurring in community.

9. FOODS. THE BALANCED RATION.

Foods should be chosen to supply what the body needs.²¹ Diets are the result of long series of man's experiments—differ in various countries. All diets contain the six elements: Carbon, hydrogen, oxygen, nitrogen, sulphur, and phosphorus, which have been worked up by plants into complex forms in fruits, grains, and vegetables. By animals these elements have been carried through more changes into still more complex and unstable compounds in milk, eggs, and meat. All foods are comprised in three classes: (1) Sugar and starches; (2) the fats and oils; (3) the proteids. Each kind subserves its own part in the economy of the body, and a combination of the three is necessary to sustain life and activity.

Laboratory Exercises: Samples of all common foods should be obtained and classified as to the three "kinds." Simple chemical tests of these (as to starch, sugar, fat, and proteid contents), and action of saliva, pepsin, and artificial intestinal juice on starch, fat, proteid, may be found in any manual on experimental physiology. Food-values shown by government charts. A week's diet as to "balance" and economy in buying, and the making and using an "appetite set" for use in study

of menu, will be described later in the health-conservation quarterly to be issued.

Protection of foods in the home by cleanliness, cold, heat. Pasteurization and sterilization of milk. Use of preservatives dangerous. Study of food labels showing government protection of food supplies. Bacterial cultures from "store" milk and "certified" milk.

Visits to fruit, vegetable, and meat shops, bakeries and dairies. Study of local regulations for protection of food supplies.

10. REST AND ACTIVITY.

The activity of the body as a resultant of the combined activities of the cells of the various organs of the body illustrated by familiar experiences. The continuous activity and entire responsibility of the central nervous system.

The causes of fatigue. The restorative processes that take place during rest. Sleep as necessity of the nerve-centers especially. Time necessary for the sleep of the child; the adult.

Work a necessity. Must be properly related to rest and sleep. But *happiness* is also necessary to secure the vigorous and well-balanced action of the bodily organs, hence the need of "play" for adults as well as for children.

Laboratory Exercises: Experiments in the fatigue and restoration of finger muscles by "rubbing" and rest. Physical exercises of class and their immediate effects on the class in the schoolroom. Exercise in the open air. Some experiments with games indoor and out. Daily programs of pupils recorded and compared with standard allotments of sleep and rest and work.

11. HOW THE GOVERNMENT WORKS TO PROTECT AND IMPROVE THE PUBLIC HEALTH.

Duties of health officers: (1) Protection of individuals and communities from communicable diseases; (2) protection of foods and drugs from contamination and adulteration; (3) protection of water supplies; (4) supervision of housing conditions as to air space and means of ventilation; (5) keeping permanent records of births, marriages, deaths, and morbidity statistics; (6) keeping the public informed, as far as possible, in regard to the conditions influencing the public health and the sanitary measures desirable for the public welfare.

Plan of health organization—federal, state, county, community.

Vital statistics furnish a "picture" of health conditions. They show where active measures are needed. Copies of state records in the offices of the United States Public Health and Hospital Service at Washington give a picture of the national health. Bubonic plague in California. Yellow fever in New Orleans. Immigrants from "infected countries."

State "pictures" and measures illustrated by rabies, hookworm, and smallpox in California; community action by whooping-cough and measles.

Vital statistics, the bookkeeping of health organizations: Assets are citizens with earning capacity (present or potential); liabilities—sickness and premature death with consequent losses and expenses. Gains are increased earnings and droppings of expenses due to the decrease

in death-rates resulting from improved sanitary conditions and improved hygienic conduct.

Class Exercises: Study of California blanks for recording vital statistics. Study of local conditions as to needed sanitary improvements. Computations as to the cost of these. Duties of citizen in regard to sanitation. Part education plays in securing performance of such duties.

12. SOME OF THE HEROES AND MARTYRS WHO MADE PREVENTIVE MEDICINE.

How such men as Sydenham, Jenner, Lister, Pasteur, Koch, Von Behring, Ross, Reed, and others won from nature the knowledge and power by which men now recover from "incurable diseases," and by which men now escape from and control diseases formerly mysterious and unavoidable. The foundation these men have laid, the means they have provided for the eradication of more than two thirds of the sickness in the civilized world, and for adding fifteen years to the average age of men.

Laboratory Exercises: Largely statistical, with reviews or elaboration of previous experiments, and work with extracts from the sources of information.

BIBLIOGRAPHY.

1. National Vitality. This is Bulletin 30 of the report of the National Conservation Committee, and the Superintendent of Public Documents at Washington, D. C., will send it to any address for fifteen cents. Most interesting; presents the meaning and importance of the facts concerning the public health, gathered by the committee appointed by President Roosevelt and published in 1909.

2. Biennial reports of the State Board of Health for 1906-8 and 1908-10. These and the monthly bulletins of the board will be sent to any teacher wishing to make use of them.

3. Report of the Superintendent of Public Instruction in California for 1908-10. Superintendent Hyatt will send this on request.

Monthly Bulletins of the State Board of Health:

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| 4. March, 1909. | 11. May, 1910. |
| 5. October, 1909. | 12. June, 1910. |
| 6. November, 1909. | 13. July, 1910. |
| 7. December, 1909. | 14. September, 1910. |
| 8. February, 1910. | 15. October, 1910. |
| 9. March, 1910. | 16. November, 1910. |
| 10. April, 1910. | 17. December, 1910. |

18. Successful Anti-Mosquito Campaign of Penryn, Placer County, in 1910. (To be issued as a State Health Board report.) Prof. Wm. B. Herms, of University of California.

19. Prevention of Malaria. U. S. Public Health Report, Vol. XXV, No. 3. The Superintendent of Public Documents at Washington, D. C., will send this for five cents.

20. Tuberculosis as a Disease of the Masses, and How to Control It. S. A. Knopf. To be had for twenty-five cents of Charities and Commons, 105 East Twenty-second street, New York. Contains just what every one wishes to know. Is illustrated. Received a gold medal in an international competition.

21. California State Board of Health Bulletin. January, 1910.

22. California State Board of Health Bulletin. March, May, June, July, 1910.

TEXT-BOOKS FOR PUPILS AND TEACHERS.

a. Ritchie's Primer of Sanitation, World Book Co. Gives in compact form, and in clear and simple language, all the essentials of the subject. Is well illustrated. (This and No. 2 have just been adopted as the state text-books by the California State Board of Education.)

b. Ritchie & Caldwell's Primer of Sanitation. Has some good lessons on food especially.

c. Town and City, Gulick Hygiene Series, D. C. Heath & Co. Fine supplement to No. 1. Interesting and pleasant to read. Gives an account of Pasteur's discovery of the nature of germ diseases and his classic experiments on cattle and sheep, and of the Yale experiments with the results of alcohol and tobacco on two pet dogs. A good book for home reading.

d. Control of Body and Mind, Gulick Hygiene Series.

e. Hoag's Health Studies, Ginn & Co. Deals with California conditions. Gives helpful suggestions to teachers as to use of topics for discussion and review, and as to the possibilities of field work.

f. Allen's Civics and Health, Ginn & Co. Considers the problem of the public health from the standpoint of "health as a civic obligation." A valuable book for general circulation.

These books are all inexpensive. Only number (f) costs more than sixty cents. They can all be found on hand in San Francisco if not obtainable through the local dealers.

TEXTS MORE ESPECIALLY FOR TEACHERS AND PARENTS.

1. Sedgwick's "Principles of the Public Health and Sanitation," Ginn & Co.
2. Hough & Sedgwick's "The Human Mechanism," Ginn & Co.
3. Conn's "Story of Germ Life." (A small, but very instructive book.)

OF GENERAL INTEREST.

4. Malaria, Wm. H. Deaderick, W. B. Saunders Co., Philadelphia, Pa., \$4.50. (Can be borrowed from the State Library.) A practical study of malaria.

5. Walter Reed and the Yellow Fever, H. A. Kelly, McClure, Phillips & Co., New York. (Can be borrowed from State Library.) Gives results of study of typhoid fever during the Spanish-American War and an account of the successful campaign against the yellow fever mosquitoes in New Orleans in 1905.

6. The Real Triumph of Japan, Seamen. (State Library.) A small, inexpensive book, well illustrated. Gives in detail the means of educating and training and protecting her soldiers in sanitary practices. Her record of one death only from disease to one from bullets is contrasted with ours during the Civil War of nearly four from disease to one from bullets, and in the Spanish-American War of fourteen from disease to one from bullets.

The pamphlets and books listed here, with the text-books recommended, will furnish sufficient material for the work suggested in the foregoing studies. The government bulletins—state and federal—contain the results of expert study of state and national sanitary conditions and problems. Some idea of their contents may be gained from the topical references to Studies I, II, and III, which follow. The pamphlets are referred to by the numbers in the list above.

TOPICAL REFERENCES.

Vital Statistics—Study I. Statistics from 1, 2, 3.

4. Accuracy of Vital Statistics as a Public Investment, Wm. F. Snow.

16. Growing Humans, California's new Industry, Wm. F. Snow.

The Big Five Preventable Diseases—Study II.

Bull. 16: 2 *The Organized Fight Against Tuberculosis.*

(a) The California Association for the Study and Prevention of Tuberculosis. George H. Kress, Secretary of the Association. Page 283.

(b) Reports from local tuberculosis organizations. Page 286.

(c) Reports from organizations doing important auxiliary work in the prevention of tuberculosis. (See * p. 264).

3 *Some Problems of the Tuberculosis Movement.*

(d) The Disposal of Consumptives. John C. King, President California State Medical Society. Page 292.

(e) The Tuberculosis Clinic. Geo. H. Evans, President San Francisco Tuberculosis Association. Page 295.

(f) The Control of the Consumptive in Europe. Charles C. Browning, Monrovia. Page 300.

(g) The Importance of Early Diagnosis of Tuberculosis. Max Rothchild, San Francisco. Page 307.

(h) The Home Treatment of the Tuberculus. Emile Schmall and René Bine, San Francisco. Page 309.

No. 20. Prize Essay of International Congress to Combat Tuberculosis. Covers the subject. Is well illustrated.

Bull. 17: 3 *Special Tuberculosis Legislation.*

(e) The California Tuberculosis Problem. George H. Kress, Secretary California Association for Study and Prevention of Tuberculosis. Page 392.

(f) Legislation for the Control of Tuberculosis. Walter Macarthur, Chairman Committee on Legislation, San Francisco Tuberculosis Association. Page 397.

(g) A State Sanatorium for Tuberculosis. Chairman Committee on Legislation, California Woman's Club. Page 399.

- Bull. 16: Cost of Tuberculosis to the State. Wm. F. Snow. Page 273.
- 4 *Organizing the Fight Against Syphilis and Gonococcus infections.*
- (i) The California Association for the Study and Prevention of Syphilis and Gonorrhœa. John C. Spencer, President of the Association. Page 312.
- (j) The State Board of Health and the Problem. Page 312.
- Bull. 16: *The Cost of Syphilis and Gonococcus Infections.* Page 274.
- Bull. 11: California Society, "Red Plague."
- Bull. 17: 7 *Pioneer Fields for Conservation Which Will Eventually Lead to Legislation.*
- (n) Symposium on Syphilis and Gonococcus Infections. Rev. Frederick W. Clappett, Rabbi Martin A. Myer, Rev. Father Wyman, and Professor C. E. Rough. Page 421.
- (o) A Sight Saving Service for California. Samuel E. Eliot, Secretary Committee on Prevention of Blindness, Russell Sage Foundation. Page 429.
- Bull. 16: 5 *Marshaling the Forces Against Malaria and Typhoid Fever.*
- (k) Anti-Mosquito Organizations in California. William B. Herms, University of California. Page 313.
- (l) The Sanitary Privy; Its Construction and Maintenance. Raymond Russ, Director Information Bureau, State Board of Health. (This gives detailed instructions as to materials and cost. Is well illustrated.) Page 317.
- Bull. 16: Cost of Typhoid Fever to State. Wm. F. Snow. Page 279.
- Bull. 17: Some Facts and a Financial Report. J. E. Gardner. Page 377.
- Bull. 11: How to Control the Common House Fly. Well illustrated. Page 269.
- Facts that All Should Know. Page 277.
- The Business Man's Vacation—What He Should and Should Not Do. Page 281.
- California Public Health League. Page 283.
- Bull. 12: The Biology of Sewage Purification and the Function of the Septic Tank. Geo. T. Palmer. Page 302.
- Bull. 17: Water Pollution and the Existing Laws. N. D. Baker. Page 418.
- Bull. 9: (1) Septic Tanks in California. Page 205.
- (2) Cesspools. Page 210.
- (3) Small Sewage Disposal Works (illustrated). Page 211.
- (4) Septic Tank Patents. Page 215.
- (5) Sewage Disposal for Camps. Page 217.
- (6) The Sewage Problem and the Law. Page 218.
- (7) *Comments: Farming Sewage for an Income—Town Conservatism vs. State Law—The Public Convenience Station.* Page 224.
- Malaria in California—Study III.*
- Bull. 7: Malaria, the Minotaur of California. Wm. F. Snow. Page 109.
- Bull. 16: Cost of Malaria to California; Growing Humans. Page 276.
- Bull. 13: Mosquito Control in California. Wm. B. Herms. Page 7.
- No. 18: Contains full description of methods, results and cost of an anti-mosquito campaign.
- No. 19: Gives in a most interesting way, in compact form, the means of prevention used by the U. S. Public Health and Marine Hospital Service.
- The other papers will be provided with topical references in the same way.

A HEALTH-CONSERVATION QUARTERLY FOR TEACHERS.

By EDWARD HYATT, State Superintendent of Public Instruction.

The 1911 Legislature appropriated \$4,000 for the purpose of printing pamphlets or other publications to be issued by the State Superintendent as aids to the teachers of the State in making the school work in physiology and hygiene as effective as possible. It is proposed to issue a bulletin quarterly during the next two years, except for the summer quarters. The material for the text of these bulletins will be carefully collected, and will be edited with a view to encouraging the teacher to take up the important subject of health-conservation with enthusiasm, and with sufficient information not found in the printed lessons assigned to her pupils, to insure good results.

The order in which subjects will be taken up and the subject-matter to be included have not yet been decided. The first number will probably appear in September.

In explanation of this work it is proper to acknowledge the offices of the California Women's Christian Temperance Union in presenting before the recent legislature the need for more active instruction in health-conservation, and in obtaining the appropriation referred to above.

The coöperation of the secretary of the State Board of Health is promised in collecting and organizing the material for these bulletins.

DEPARTMENT REPORTS.

REPORT OF BUREAU OF VITAL STATISTICS FOR APRIL.

GEORGE D. LESLIE, Statistician.

State Totals and Annual Rates.—The following table shows for California as a whole the birth, death, and marriage totals for the current and preceding months in comparison with those for the corresponding months of last year, as well as the annual rates per 1,000 population represented by the totals for the current and preceding months. The rates are based on an estimated midyear population of 2,488,256 for California in 1911, the estimate having been made by the Census Bureau method with slight modifications.

Birth, Death and Marriage Totals, with Annual Rates per 1,000 Population for Current and Preceding Months, for California: April.

MONTH.	MONTHLY TOTAL.		Annual Rate per 1,000 Population: 1911.
	1911.	1910.	
April—			
Births	2,799	2,582	13.7
Deaths	2,666	2,605	13.0
Marriages	1,997	1,966	9.8
March—			
Births	2,818	2,636	13.3
Deaths	3,001	2,734	14.2
Marriages	1,705	1,586	8.1

The birth, death and marriage totals in April, as in each of the preceding three months, were all greater than the corresponding totals for the same months last year. The death rate for April is much less than for March, 13.0 against 14.2, while the birth rate is somewhat greater for April than for March, 13.7 against 13.3. The marriage rate is 9.8 per 1,000 population for April, as compared with only 8.1 for March.

County Totals.—The following table shows the monthly birth, death, and marriage totals for the principal counties of the State, the list being limited to counties having a population of at least 25,000, according to the Federal Census of 1910. Totals are also shown for San Francisco and the other bay counties (Alameda, Contra Costa, Marin, and San Mateo), as well as for Los Angeles and Orange counties together:

Birth, Death and Marriage Totals, for Principal Counties: April.

County.	APRIL, 1911.		
	Births.	Deaths.	Marriages.
California	2,799	2,666	1,997
Counties of more than 25,000 population (1910):			
Alameda	303	268	200
Butte	43	28	19
Contra Costa	29	26	20
Fresno	111	56	60
Humboldt	36	40	19
Kern	28	17	29
Los Angeles	668	657	443
Marin	18	21	61
Orange	71	33	80
Riverside	45	47	36
Sacramento	85	68	61
San Bernardino	63	106	38
San Diego	68	68	73
San Francisco	509	503	351
San Joaquin	36	63	51
San Mateo	29	16	33
Santa Barbara	50	34	21
Santa Clara	147	99	78
Santa Cruz	19	28	18
Solano	23	20	12
Sonoma	42	51	27
Tulare	31	15	24
Selected groups:			
San Francisco and other bay counties	888	834	665
Los Angeles and Orange counties	739	690	523

City Totals.—The table below gives the birth and death totals for the principal freeholders' charter cities, the list including all chartered cities with a census population of at least 15,000 in 1910. Totals are given likewise for San Francisco and the transbay cities (Alameda, Berkeley, and Oakland), as well as for Los Angeles and neighboring chartered cities (Long Beach, Pasadena, Pomona, and Santa Monica):

Birth and Death Totals, for Principal Cities: April.

City.	APRIL, 1911.	
	Births.	Deaths.
Freeholders' charter cities	1,695	1,592
Cities of more than 15,000 population (1910):		
Alameda	25	28
Berkeley	61	27
Fresno	32	22
Long Beach	23	26
Los Angeles	493	419
Oakland	197	170
Pasadena	40	27
Riverside	22	32
Sacramento	49	43
San Diego	45	45
San Francisco	509	503
San Jose	41	35
Stockton	20	25
Selected groups:		
San Francisco and transbay cities	792	728
Los Angeles and neighboring cities	561	498

Causes of Death.—The following table shows the distribution of deaths in California for the current month, in comparison with the preceding month.

Deaths from Certain Principal Causes, during April, with Proportion per 1,000 Total Deaths for Current and Preceding Month, for California.

Cause of Death.	Deaths: April.	Proportion per 1,000.	
		April.	March.
All causes.....	2,636	1,000.0	1,000.0
Typhoid fever.....	28	10.5	7.3
Malarial fever.....	6	2.2	1.0
Measles.....	13	4.9	1.7
Scarlet fever.....	7	2.6	3.3
Whooping-cough.....	12	4.5	7.3
Diphtheria and croup.....	13	4.9	5.3
Influenza.....	11	4.1	8.3
Other epidemic diseases.....	15	5.6	4.3
Tuberculosis of lungs.....	393	147.4	144.3
Tuberculosis of other organs.....	66	24.8	22.4
Cancer.....	162	60.8	54.3
Other general diseases.....	116	43.5	44.3
Meningitis.....	28	10.5	8.3
Other diseases of nervous system.....	222	83.3	94.0
Diseases of circulatory system.....	461	172.9	158.9
Pneumonia and broncho-pneumonia.....	172	64.5	96.3
Other diseases of respiratory system.....	52	19.5	30.3
Diarrhea and enteritis, under 2 years.....	45	16.9	12.7
Diarrhea and enteritis, 2 years and over.....	19	7.1	2.3
Other diseases of digestive system.....	133	49.9	46.0
Bright's disease and nephritis.....	187	70.1	68.7
Childbirth.....	25	9.4	7.7
Diseases of early infancy.....	93	34.9	32.7
Suicide.....	58	21.8	20.3
Other violence.....	197	73.9	70.0
All other causes.....	132	49.5	48.0

In April there were 461 deaths, or 17.3 per cent of all, from diseases of the circulatory system, and 459, or 17.2 per cent, from various forms of tuberculosis, heart disease and tuberculosis thus running fairly even.

Other notable causes of death were: violence, 255; diseases of the nervous system, 250; diseases of the respiratory system, 224; diseases of the digestive system, 197; Bright's disease and nephritis, 187; cancer, 162, and epidemic diseases, 105.

The deaths from epidemic diseases were as follows: typhoid fever, 28; diphtheria and croup, 13; measles, also 13; whooping-cough, 12; influenza, 11, and all other epidemic diseases, 28.

The deaths from the three leading epidemic diseases reported for April were distributed by counties as follows:

TYPHOID FEVER.		DIPHTHERIA AND CROUP.		MEASLES.	
Fresno	2	Fresno	1	Alameda	6
Humboldt	1	Los Angeles	4	Fresno	1
Kings	1	Mendocino	1	Los Angeles	2
Lake	1	Placer	1	Marin	1
Los Angeles	5	Sacramento	1	San Francisco	2
Mendocino	1	San Bernardino	1	San Mateo	1
Napa	1	San Francisco	2		
Placer	1	Stanislaus	1	Total	13
Sacramento	1	Tuolumne	1		
San Bernardino	3				
San Francisco	3	Total	13		
San Joaquin	3				
San Mateo	1				
Sonoma	1				
Stanislaus	2				
Ventura	1				
Total	28				

Geographic Divisions.—Data for geographic divisions, including the metropolitan area, or “Greater San Francisco,” are as follows:

Deaths from Main Classes of Diseases, for Geographic Divisions: April.

Geographic Division.	DEATHS: APRIL.										
	All Causes	Epidemic Diseases	Tuberculosis (All Forms)	Cancer	Diseases of Nervous System	Diseases of Circulatory System	Diseases of Respiratory System	Diseases of Digestive System	Bright's Disease and Nephritis	Violence	All Other Causes
THE STATE	2,666	105	459	162	250	461	224	197	187	255	366
<i>Northern California</i>	308	15	44	13	45	50	22	14	15	30	60
Coast counties ..	176	9	21	8	31	28	16	8	6	14	35
Interior counties	132	6	23	5	14	22	6	6	9	16	25
<i>Central California</i>	1,377	63	204	89	124	254	120	117	96	129	181
San Francisco ..	503	10	78	34	40	116	38	44	40	34	69
Other bay counties	331	21	35	23	30	62	38	24	20	36	42
Coast counties ..	174	3	35	16	22	34	13	13	5	13	20
Interior counties	369	29	56	16	32	42	31	36	31	46	50
<i>Southern California</i>	981	27	211	60	81	157	82	66	76	96	125
Los Angeles	657	17	141	48	57	103	54	45	52	59	81
Other counties ..	324	10	70	12	24	54	28	21	24	37	44
<i>Northern and Central California</i>	1,685	78	248	102	169	304	142	131	111	159	241
Metropolitan area	834	31	113	57	70	178	76	68	60	70	111
Rural counties ..	851	47	135	45	99	126	66	63	51	89	130

REPORT OF THE PURE FOOD AND DRUG LABORATORY.

PROFESSOR M. E. JAFFA, Director.

The work of the State Laboratory for the past month has been, as usual, devoted to the examination and analysis of miscellaneous samples of food and drugs. About 250 samples of foods and 50 of drugs have been received at the laboratory. Included among the foods are a large number of samples of chopped meat, and in nearly all cases these are found to be adulterated with the preservative, sulphur dioxide, or some of its salts. This preservative is not allowed in meat or meat food products.

PURE FOOD AND DRUG CASES REFERRED TO DISTRICT ATTORNEYS FOR PROSECUTION ON MAY 6, 1911.

Name of Article.	Offense.	Manufacturer.	Accused Dealer.
Cider -----	Mislabeled and adulterated. Imitation cider preserved with benzoates not declared on label.	Borello Bros., Fresno -----	Borello Bros., Fresno.
Paregoric -----	Mislabeled. Sample contains ethyl alcohol and morphine not declared on label.	(Not stated) -----	E. Eberlin, Benicia.
Cider -----	Adulterated because other materials have been substituted largely for cider.	(Not stated) -----	J. Richter, Fresno.
Hamburg -----	Adulterated because sample contains sulphur dioxide; over 400 milligrams per kilo.	(Not stated) -----	Union Meat Market Co., San Luis Obispo.
Webb's Tonic -----	Mislabeled because sample contains alcohol not declared on label.	T. M. Lash, Sacramento -----	P. H. Loinaz, Fresno.
Hamburg -----	Adulterated because sample contains sulphur dioxide.	(Not stated) -----	Bon Ton Market, Santa Barbara.
Hamburg -----	Adulterated because sample contains sulphur dioxide.	(Not stated) -----	F. N. Gehl Packing Co., Santa Barbara.
India relish -----	Mislabeled because sample contains benzoates not declared on label.	National Vinegar and Pickle Co., Los Angeles.	(Dealer protected by specific guaranty from manufacturer.)
Sweet pickles -----	Mislabeled because sample contains benzoates not declared on label.	Reed Pickle Works, San Francisco.	(Dealer protected by specific guaranty from manufacturer.)
Boiled cider -----	Mislabeled because sample contains benzoates not declared on label.	Orchard Cider Co., Sebastopol.	(Dealer protected by specific guaranty from manufacturer.)
Lemon extract -----	Adulterated because a solution of alcohol and water with a mere trace of lemon oil has been substituted for lemon extract.	Walsh-Col Co., San Jose -----	W. A. Emmett Co., Belmont.
Mexican hot -----	Mislabeled because sample contains benzoates not declared on label.	Lewis Packing Co., San Francisco.	P. Neary, Santa Cruz.
Tomato mustard -----	Adulterated because sample contains salicylates -----	California Packing Co., San Francisco.	R. E. Gorham, Monterey.
Lemon extract -----	Mislabeled because sample contains only 1.9% lemon oil.	Scott & Gilbert Co., San Francisco.	T. E. Smith, Saratoga.
Orange extract -----	Mislabeled because sample contains only 1.3% orange oil.	Tillman & Bendel, San Francisco.	F. Classen, Paso Robles.
Lemon extract, "Empress" -----	Adulterated and mislabeled because a dilute solution of alcohol colored with a coal-tar dye has been substituted largely for lemon oil.	(Not stated) -----	P. Ivancovich & Bro., Hanford.
Lemon extract -----	Adulterated and mislabeled because a dilute solution of alcohol colored with a coal-tar dye has been substituted largely for lemon oil.	Sussman, Wormser & Co., San Francisco.	Mason & Gomes, Niles.

Whiting's brand of lemon flavoring.	Adulterated and mislabeled because a dilute solution of alcohol colored with a coal-tar color has been sub- stituted largely for lemon oil.	(Not stated)	The Belshaw Co., Antioch.
Lemon extract	Adulterated and mislabeled because a dilute solution of alcohol colored with a coal-tar dye has been sub- stituted largely for lemon oil.	Wilson Manufacturing Co., Sacramento.	(Manufacturer assumed re- sponsibility.)
Lemon flavoring	Adulterated and mislabeled because sample contains only a trace of lemon oil, and is colored with coal-tar dye not declared on label.	Wilson Manufacturing Co., Sacramento.	(Manufacturer assumed re- sponsibility.)
Lemon extract	Adulterated and mislabeled because sample contains only a trace of lemon oil, and is colored with coal-tar dye not declared on label.	(Not stated)	I. Benchimol, Arroyo Grande.
Lemon extract	Adulterated and mislabeled because sample contains only a trace of lemon oil, and is colored with coal-tar dye, not declared on label.	S. H. Tyler & Son, San Francisco.	J. O'Keefe, Menlo Park.
Lemon extract	Adulterated because sample contains only a trace of lemon oil.	Put up for Farmers Union, Los Gatos.	Farmers Union, Los Gatos.
Concentrated extract of lemon.	Mislabeled because sample contains only 1.5% lemon oil; also coal-tar color, not declared on label.	W. T. Ellis Co., Marysville.	W. T. Ellis Co., Marysville.
Extract of lemon	Mislabeled because sample contains only 2.3% lemon oil; also coal-tar color, not declared on label.	S. H. Tyler & Son, San Francisco.	P. Ivancovich & Bro., Han- ford.
Lemon flavor	Adulterated because sample contains only a trace of lemon oil, and is colored with a non-permissible coal-tar color.	Samuel O. Meyer Co., San Francisco.	A. R. Coombs, Vallejo.
Concentrated extract of orange.	Mislabeled because sample contains coal-tar color, not declared on label.	Mondel Extract Co., San Jose.	T. E. Smith, Saratoga.
Wapple's Headache Tablets.	Mislabeled because sample contains acetanilid, not de- clared on label.	George Wapple, Hollister.	George Wapple, Hollister.
Stark's Headache Powders	Mislabeled because sample contains acetanilid, not de- clared on label; also false statements as to curative properties	Starks & Co., Midway, Ky.	Walter L. Johnson, Santa Cruz.
One Minute Headache Pow- ders.	Mislabeled because sample contains acetanilid, not de- clared on label; also false and extravagant claims.	One Minute Toothache Drops Co., San Francisco.	J. G. Tanner Drug Store, Santa Cruz.
Krause's Headache Capsules	Mislabeled because sample contains acetanilid, not de- clared on label; also false and extravagant claims.	Norman Light & Manufac- turing Co., Des Moines, Ia.	Pond's Pharmacy, Hollister.
G. Z. Wait's Cough Syrup	Mislabeled because sample contains ethyl alcohol, mor- phine and chloroform, not declared on label.	Geo. Z. Wait, Sacramento	J. Bidegaray & Co., Fresno.
Marshall's Sarsaparilla Bit- ters.	Mislabeled because sample contains alcohol, not de- clared on label.	Kirk, Geary & Co., Sacra- mento.	Hornung Drug Co., Marys- ville.
Shiloh's Consumption Cure.	Mislabeled because sample contains ethyl alcohol, mor- phine and chloroform, not declared on label. False and misleading statements.	S. C. Wells & Co., Le Roy, N. Y.	Chas. J. Abraham, 1198 McAl- lister, San Francisco.
Dr. Fenner's Golden Relief	Mislabeled because sample contains ethyl alcohol, not declared on label. False and misleading statements.	Dr. M. M. Fenner, Fre- donia, N. Y.	Lindsay Drug Co., Lindsay.

PURE FOOD AND DRUG CASES REFERRED TO DISTRICT ATTORNEYS FOR PROSECUTION—Continued.

Name of article.	Offense.	Manufacturer.	Accused dealer.
Acker's English Remedy-----	Mislabeled because sample contains ethyl alcohol and chloroform, not declared on label. False and misleading statements.	W. H. Hooker & Co., Buffalo, N. Y.	Kruell's Pharmacy, 2601 San Pedro, Los Angeles.
Dr. Seth Arnold's Cough Killer.	Mislabeled because sample contains ethyl alcohol, morphine and chloroform, not declared on label. False and misleading statements.	Dr. Seth Arnold Medical Corporation, Woonsocket, R. I.	Bakersfield Drug Co., Bakersfield.
Orange soda water-----	Mislabeled because sample contains coal-tar color, not declared on label.	Oakland Pioneer Soda Water Co., Oakland.	Oakland Pioneer Soda Water Co., Oakland.
Pure extract of lemon-----	Mislabeled because sample contains coal-tar color, not declared on label.	Argonaut Tea and Spice Co., San Francisco.	J. R. Garrett, Marysville.
Dr. Seth Arnold's Cough Killer.	Mislabeled because sample contains ethyl alcohol, morphine and chloroform, not declared on label. False and misleading statements.	Dr. Seth Arnold Medical Corporation, Woonsocket, R. I.	J. A. Hughes, Bakersfield.
Butter-----	Mislabeled. Under weight-----	Jacinto Creamery Co., Jacinto.	(Dealer protected by specific guaranty from manufacturer).
Maple syrup-----	Adulterated. Sample deficient in maple sugar ash-----	The Towle Maple Syrup Co., St. Paul, Minn.	Mason & Gomes, Niles.
Catsup-----	Mislabeled. Sample contains benzoates and saccharin, not declared on label.	(Not stated)-----	B. Anazitos, San Rafael.
Sweet gherkins-----	Mislabeled. Sample contains benzoates, not declared on label.	Pacific Vinegar and Pickle Works, San Francisco.	(Dealer protected by specific guaranty from manufacturer).
East India relish-----	Mislabeled. Sample contains benzoates, not declared on label.	Beller Relish Co., San Diego.	Marco Bruchi, San Diego.
Apple cider-----	Mislabeled. Sample contains benzoates, not declared on label.	(Not stated)-----	Lincoln Market, 877 Market street, San Francisco.
Blackberry extract-----	Adulterated. Sample contains a non-permissible coal-tar color.	Yosemite Manufacturing Co., San Francisco.	H. Graff & Co., Fresno.
Lemon extract-----	Mislabeled. Sample is deficient in lemon oil, and is artificially colored, such fact not being declared on label.	Leege & Haskins, San Francisco.	(Dealer protected by specific guaranty from manufacturer.)
Raspberry extract-----	Mislabeled. Sample contains artificial color, not declared on label.	Jones-Paddock Co., San Francisco.	The Shaw Co., Hollister.
Sherman's Headache Capsules.	Mislabeled. Sample contains acetanilid, not declared on label.	Orator F. Woodward, Le Roy, New York.	N. L. A. Cody, Merced.
Chopped meat (Hamburg)-----	Adulterated. Sample contains sulphur dioxide-----	(Not stated)-----	Salinas Meat Co., Salinas.
Chopped meat-----	Adulterated. Sample contains sulphur dioxide-----	(Not stated)-----	Palace Meat Market, Folsom.
Chopped meat-----	Adulterated. Sample contains sulphur dioxide-----	(Not stated)-----	Miller & Lux, Los Banos.

Rice	Mislabeled. Sample is coated with glucose, such fact not being declared on label.	W. T. Welisch & Co. (guarantors), 24 California street, San Francisco.	A. Lopizich, Fresno.
Maserang's Headache Cure	Mislabeled. Sample contains acetanilid, not declared on label. False and misleading statements.	Wakelee & Co., sole agents, San Francisco.	Salinas Drug Co., Salinas.
Hammit's Headache Powders	Mislabeled. Sample contains acetanilid, not declared on label. False and misleading statements.	(Not stated)	Monterey Pharmacy, Monterey.
Fuller's Headache Powders	Mislabeled. Sample contains acetanilid, not declared on label. False and misleading statements.	C. F. Fuller, 2300 Fillmore street, San Francisco.	E. A. Rosenfeld, Sacramento and Baker streets, San Fran.
De Witt's Colic and Cholera Cure.	Mislabeled. Sample contains alcohol, morphine, ether, meconic acid and chloroform, not declared on label. False and misleading statements.	E. C. DeWitt & Co., Chicago, Ill.	Baer Bros., Bakersfield.
Oil of Eden	Mislabeled. Sample contains acetic ether, morphine and meconic acid, not declared on label. False and misleading statements.	Dr. John L. Kellett, Oakland.	Frank W. Mixter, Exeter.
Queen of the Meadow Cough Syrup.	Mislabeled. Sample contains ethyl alcohol, not declared on label. False and misleading statements.	(Not stated)	W. M. Hefton, Hanford.
Cough cure	Mislabeled. Sample contains morphine and chloroform, not declared on label. False statements.	New York and London Drug Co., New York City.	W. M. Hefton, Hanford.
Pulmonary balsam	Mislabeled. Sample contains ethyl alcohol, ethyl acetate and morphine, not declared on label. False statements.	R. Hall & Co., 417-419 Sansome street, San Francisco.	Patterson Block Pharmacy, Fresno.
Chopped meat	Adulterated. Sample contains sulphur dioxide.	(Not stated)	Lick Market, San Jose.
Ache-No-More Toothache Drops.	Mislabeled. Sample contains ethyl alcohol, not declared on label.	Wakelee's Pharmacy, San Francisco.	Wakelee's Pharmacy, 58 Market street, San Francisco.

NOTICES OF JUDGMENTS.

The following table containing Notices of Judgments, recently received from the United States Department of Agriculture, at the Laboratory, will be of interest to manufacturers and dealers.

As previously stated, full copies of notices, as far as they are available, will be sent free, upon application to the Director of the State Food and Drug Laboratory at Berkeley, California:

Number of case and offense charged.	Name and address of defendant or manufacturer.	Specification of offense and disposition of case.
806. Misbranding of extracts—vanilla, lemon, "Maple Flavo."	S. Gumpert & Co., New York, N. Y.	Inferior products, vanilla, artificially flavored and colored; lemon, a dilute extract, containing no lemon oil; "Maple Flavo," compound of glucose and sugar artificially flavored and colored. Fine \$400.
807. Adulteration and misbranding of lemon extract.	B. H. Townsend & Co., Salt Lake City, Utah.	Highly dilute terpeneless extract colored with a yellow dye. Fine \$10 and costs.
808. Adulteration of crackers—"Creme Waffles."	DeBoer & Dik, Chicago, Ill.	Contained poisonous ingredient, boric acid. Released after paying costs and delivery of \$250 bond.
809. Misbranding of stock and cattle feed. Labeled, "Made from corn, oat middlings, oat shorts and oat hulls."	Beck Cereal Company, Detroit, Mich.	Products contained no oat starch. Fine of \$1 in each case.
810. Misbranding of "Sugarota" horse, sheep and dairy feeds.	Northwest Mills Company, Winona, Minn.	Products did not contain ingredients as stated on label. Fine \$50 each on two counts; \$25 on third count.
811. Adulteration and misbranding of "Columbine Brand Compound" fruit jellies.	Colorado Canning Company, Canon City, Colo.	Inferior jellies containing free sulphuric acid and benzoate of soda. Fine, first count, \$10 and costs. Remaining (3) counts dismissed, corporation bankrupt.
812. Adulteration of butter.	Frank Crawford, New York City.	Filthy, decomposed and putrid animal and vegetable substances. Released under bond upon payment of costs.
813. Adulteration of figs.	Loose Wiles Biscuit Company, Boston, Mass.	Filthy and decomposed animal and vegetable substance. Ordered destroyed.
814. Adulteration of ice cream cones.	Star Wafer Company, Oklahoma City, Okla.	Contained an added poisonous ingredient, boric acid. Ordered destroyed.
815. Adulteration and misbranding of vinegar.	Harbauer-Marleau Company, Toledo, Ohio.	Inferior product labeled as cider vinegar. Forfeited U. S.
816. Alleged misbranding of a drug product—"Lopez Specific Special Compound."	John A. Riggs, Hot Springs, Ark.	False and misleading statements. Released.
817. Adulteration of olives.	Psaki Brothers, New York, N. Y.	Filthy, decomposed and putrid substance. Ordered destroyed.
818. Adulteration of olives.	Psaki Brothers, New York, N. Y.	Filthy, decomposed and putrid substance. Fine \$25.

NOTICES OF JUDGMENTS—Continued.

Number of case and offense charged.	Name and address of defendant or manufacturer.	Specification of offense and disposition of case.
819. Misbranding of olive oil.	A. Fiore & Co., New York, N. Y.	Domestic product consisting largely of cottonseed oil, labeled Italian olive oil. Plea of guilty. Sentence suspended.
820. Misbranding of a drug product—"Burwell's Instantaneous Headache Cachets."	The Willis H. Lowe Company, Boston, Mass.	False statements on label. Fine \$25.
821. Adulteration of tomato catsup.	R. C. Chance's Sons, Mount Holly, N. J.	Filthy, decomposed and putrid substances. Ordered destroyed.
822. Misbranding of Londonderry Lithia Water.	Londonderry Lithia Spring Water Co., Nashua, N. H.	Statements false and misleading, not a lithia water. Ordered destroyed.
823. Adulteration and misbranding of lemon extract.	Frank Tea and Spice Company, Cincinnati, O.	Dilute solution of alcohol and water. Fine \$200 and costs.
824. Adulteration and misbranding of port wine.	Independent Distilling Company, Kansas City, Mo.	Contained glucose and benzoate of soda, imitation of port wine. Fine \$25 and costs.
825. Adulteration of a frozen egg product.	F. E. Rosebrock & Co., New York City.	Contained formaldehyde, filthy, decomposed and putrid substance. Fine \$200.
826. Misbranding of a drug product—"Kickapoo Cough Cure."	Kickapoo Indian Medicine Company, Clintonville, Conn.	False and misleading statements on label account of alcohol not declared. Fine \$25 and costs.
827. Adulteration and misbranding of tomato catsup.	Pacific Vinegar and Pickle Works, San Francisco, Cal.	Filthy, decomposed substance. Ordered destroyed.
828. Misbranding of "Sparkling Burgundy" and "Champagne."	Ripin & Co., New York City.	Labels false and misleading: "Burgundy" artificially carbonated wine; "champagne" highly artificial carbonated wine. Fine \$25.
829. Adulteration of tea.	New Orleans Import Co., New Orleans.	Filthy, extremely musty and moldy. Ordered destroyed.
830. Misbranding of mineral water—"California Waters of Life."	N. C. and E. J. Foster, Lapresa, Cal.	Statements in label false and exaggerated. Released under bonds after paying costs.
831. Adulteration of ice cream cones—"Cornets."	Star Wafer Company, Birmingham, Ala.	Contained deleterious ingredients. Ordered destroyed.
832. Misbranding of olive oil.	Italian Importing Company, New York City.	Cottonseed oil. Fine \$50.
833. Adulteration of prunes.	Northwest Fruit Association, Albany, Ore.	Filthy, decomposed and infested with worms. Ordered destroyed.
834. Adulteration and misbranding of alleged temperance drinks—Laevison's "Temperine," "Doctor Fizz," and "Cream Ale."	H. Friedman, as A. M. Laevison & Co., Paducah, Ky.	Intoxicating, first containing 4% alcohol, second 4.55% alcohol, third 4% alcohol. Fine \$50 and costs.
835. Adulteration and misbranding of pepper.	Frank Tea and Spice Company, Cincinnati, Ohio.	35% cereal—statement of cereal in small, indistinct type. Fine \$50 and costs. Appealed.

NOTICES OF JUDGMENTS—Continued.

Number of case and offense charged.	Name and address of defendant or manufacturer.	Specification of offense and disposition of case.
836. Adulteration of lalded butter.	Frank Crawford, New York, N. Y.	Contained excessive amount of water. Fine \$100.
837. Misbranding of a drug product—Dr. B. W. Hair's Asthma Cure.	Dr. B. W. Hair and Robert H. Cochran, Hamilton, O.	Label and circular were false, misleading, deceptive. Fine \$25 and costs.
838. Adulteration of catsup.	Atlas Preserving Company, Baltimore, Md.	Filthy, decomposed and putrid vegetable substances. Ordered destroyed.
839. Adulteration and misbranding of bitters. Labeled: "Fernet Branca of the Branca Bros. & Co., Milan.	Imperial Distilling and Cordial Company, Chicago, Ill.	Imitation of Fernet-Branca Bitters, colored with caramel. Fine \$200 and costs.
840. Misbranding of a drug product—"Brunner's Greaseless Peroxide Cream."	Peroxide Specialty Company, Cincinnati, O.	Contained no peroxide of hydrogen. False and misleading statements. Fine \$10 and costs amounting to \$24.05.
841. Adulteration and misbranding of coffee. Labeled: "Siems Genuine Java and Mocha."	Thompson & Taylor Spice Company, Chicago, Ill.	Padang and Bogota coffee substituted for genuine Java and Mocha.
842. Adulteration and misbranding of vanilla extract.	Paul Manufacturing Company, Boston, Mass.	Imitation vanilla extract. Statements false and misleading. Fine \$25.
843. Misbranding of a drug product—"German Seidlitz Salts."	American Granule and Tablet Company, Cincinnati, Ohio.	False and misleading statements in regard to origin and curative properties. Fine \$25 and costs.
844. Adulteration and misbranding of vinegar.	S. W. Jennings and Carl C. Jennings as Union Vinegar Company, Cincinnati, Ohio.	Imitation of apple-cider vinegar. Fine \$10 and costs.
845. Adulteration of condensed milk—"Country Club Brand."	Scio Condensed Milk Company, Scio, Ore.	Below standard. Fine \$25.

REPORT OF THE STATE HYGIENIC LABORATORY FOR APRIL, 1911.

WILBUR A. SAWYER, M.D., Director.

During the month of April, 98 examinations were made in the State Hygienic Laboratory. The results of these examinations are indicated in the following tables:

Summary of Examinations made in the California State Hygienic Laboratory during the month of April, 1911.

Main Laboratory at Berkeley:

Condition suspected:	Positive.	Negative.	Total.
Diphtheria	2	32	34
Malaria	--	2	2
Rabies	2	2	4
Tuberculosis	13	21	34
Typhoid	3	11	14
Water pollution	--	1	1
Anthrax	--	1	1
Hookworm	1	--	1
Miscellaneous	--	2	2
			<u>93</u>

Los Angeles Branch Laboratory:

Condition suspected:	Positive.	Negative.	Total.
Diphtheria	1	3	4
Tuberculosis	--	1	1
			<u>5</u>
Total number examinations			<u>98</u>

BUREAU OF PUBLIC HEALTH INFORMATION.

PUBLIC HEALTH IN THE SUMMER SESSION OF THE UNIVERSITY OF CALIFORNIA.

By JOHN N. FORCE, M.D.

Beginning in 1891 as summer courses in several departments, the summer session of the University of California has increased in strength and popularity until it must be reckoned as one of the great educational influences of the State. From the beginning the aim of the session has been to give practical instruction along lines of modern thought. In fact, a number of regular University courses took their initial impulse from a successful summer-session course.

As an example may be cited the courses in Public Hygiene and School Hygiene, which were first given as a single course in the session of 1909. In the session of 1910 two lecture courses in hygiene were given, while in the coming session, beginning June 26th, five courses in hygiene, three in medicine, and twenty-six in physical education have been announced.

The Departments of Hygiene and Medicine together offer courses which are of special interest to health officers, medical directors of schools, and teachers of hygiene. The Department of Physical Education last year opened a model playground and commenced instruction in this comparatively modern subject. The success of the venture was amply assured.

The following is a list of courses bearing especially on the public health:

Hygiene I. Public Health.

A general non-technical course in race conservation. Epidemiology, labor protection and sanitation, sanitary architecture, refuse disposal, water supply, food supply, and sanitary law. There will be assignments in field topics suggested by the lectures and weekly reports in conference.

II. Child Conservation.

The organization of school health departments, including school sanitation, medical inspection, school nursing, and social service. The physical defects of school children, the question of physical education, outline of a course in hygiene, covering the entire period of school life. Assigned topics in school sanitation to be reported in weekly conferences.

III. Laboratory Demonstrations in Hygiene.

a. Public Health. The laboratory exercises will cover water and milk examinations, investigation of food, sewage disposal and water purification, the bacteria causing the common infectious diseases, the principles of transmission of these diseases and methods for their control.

b. Laboratory Methods in Teaching Hygiene. Experiments and demonstrations suitable for use in presenting the principles of public health to pupils in graded schools. A series of simple experiments that can be used with the limited apparatus at the command of the ordinary school.

IV. Elementary Bacteriology.

A laboratory introduction to bacteriology. Methods, and the relation of bacteria to common industries.

V. Field Aid.

A course in the recognition of emergency treatment of the common accidents of the home, schoolroom, street, and playground.

Medicine I. Laboratory Course in Clinical Diagnosis.

Exercises in demonstrations in the examination of blood, exudates, sputum, gastric contents, stools, and urine for practical diagnostic purposes. Specimens which have been examined at the State Hygienic Laboratory will be available for purposes of instruction and for practice by the class, as well as material collected from hospitals.

Zoology I. A Biological Presentation of the Problem of Sex and Reproduction.

The consideration of abundant biological material on the subject of sex and reproduction which will make for a sounder understanding of the subject. It will be the aim, both in lecture and laboratory, to select materials which are sufficiently simple to present to the child in the grades, and at the same time to present the materials in such a way as to provide a natural approach to the subject.

Physical Education X. Playground Administration.

A brief history of playgrounds. Their aims and purposes, administrations, location, and equipment.

XIX. Physical Diagnosis and Anthropometry.

Signs and symptoms indicating physical defects with simple tests for their detection. The normal measurements of the child.

**THE CALIFORNIA STATE BOARD OF
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